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BULLETIN
OF THE
AGRICULTURAL AND MECHANICAL
COLLEGE OF TEXAS

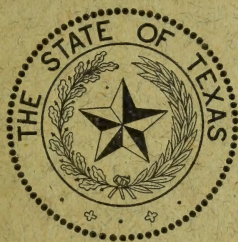
Third Series, Vol. 7

June 1, 1921

No. 6

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FORTY-FIFTH
ANNUAL CATALOGUE
SESSION 1920-21
ANNOUNCEMENTS FOR 1921-22

Published monthly by the Agricultural and Mechanical College
of Texas.

Entered as second class matter August 7, 1913, at the Postoffice at
College Station, Texas, under the Act of August 24, 1912.

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1920/21-1932/33

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CALENDAR.

| 1921 | | | | | | | 1922 | | | | | | | 1923 | | | | | | | | | | | | | | | | |
|-----------|----|----|----|----|----|----|----------|----|----|----|----|----|----|-----------|----|----|----|----|----|----|----------|----|----|----|----|----|----|---|---|---|
| JULY | | | | | | | JANUARY | | | | | | | JULY | | | | | | | JANUARY | | | | | | | | | |
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| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | | | |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | | | |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | | | |
| 31 | | | | | | | 29 | 30 | 31 | | | | | 30 | 31 | | | | | | 28 | 29 | 30 | 31 | | | | | | |
| AUGUST | | | | | | | FEBRUARY | | | | | | | AUGUST | | | | | | | FEBRUARY | | | | | | | | | |
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| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | | |
| 28 | 29 | 30 | 31 | | | | 26 | 27 | 28 | | | | | 27 | 28 | 29 | 30 | 31 | | | | 25 | 26 | 27 | 28 | | | | | |
| SEPTEMBER | | | | | | | MARCH | | | | | | | SEPTEMBER | | | | | | | MARCH | | | | | | | | | |
| S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | | | |
| | | | | | 1 | 2 | | | | 1 | 2 | 3 | 4 | | | | | | 1 | 2 | | | | | | 1 | 2 | 3 | | |
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| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | | | |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | | |
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| OCTOBER | | | | | | | APRIL | | | | | | | OCTOBER | | | | | | | APRIL | | | | | | | | | |
| S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | | | |
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| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | | | |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | | | |
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| 23 | 24 | 25 | 26 | 27 | 28 | 29 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 29 | 30 | 31 | | | | | 29 | 30 | | | | | | | | |
| 30 | 31 | | | | | | 30 | | | | | | | | | | | | | | | | | | | | | | | |
| NOVEMBER | | | | | | | MAY | | | | | | | NOVEMBER | | | | | | | MAY | | | | | | | | | |
| S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | | | |
| | | 1 | 2 | 3 | 4 | 5 | | | 1 | 2 | 3 | 4 | 5 | 6 | | | | 1 | 2 | 3 | 4 | 5 | | | | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | | |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | | | |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | | | |
| 27 | 28 | 29 | 30 | | | | 28 | 29 | 30 | 31 | | | | 26 | 27 | 28 | 29 | 30 | | | 27 | 28 | 29 | 30 | 31 | | | | | |
| DECEMBER | | | | | | | JUNE | | | | | | | DECEMBER | | | | | | | JUNE | | | | | | | | | |
| S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | | | |
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| 4 | 5 | 6 | 7 | 8 | 9 | 10 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | | | |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 | 25 | 26 | 27 | 28 | 29 | 30 | | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | | | |
| | | | | | | | | | | | | | | 31 | | | | | | | | | | | | | | | | |

COLLEGE CALENDAR

1921

Entrance Examinations, September 15, 16, 17.
First Term Begins Wednesday, September 21.
Registration, September 21, 22.
Recitations begin September 23, 8 a. m.
Opening Exercises, September 23, 10 a. m.
November 11, observance of Victory Day.
Thanksgiving Day, a holiday.
Christmas holidays begin Thursday, December 22, at noon.

1922

Christmas holidays end Tuesday, January 3, at reveille.
Recitations resumed, Tuesday, January 3, 8 a. m.
First term ends Friday, February 3.
Second term begins Saturday, February 4.
Registration for second term, February 1, 2, 3, 4.
Washington's Birthday, February 22, a holiday.
Observance of Texas Independence Day, March 2.
San Jacinto Day, April 21, a holiday.
Commencement sermon, Sunday June 4.
Exhibition of departments and of work of Students, June 5.
Commencement Day, June 6.

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| | |
|---------------------|--------------|
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| J. R. KUBENA | Fayetteville |
| W. A. MILLER | Amarillo |

TERMS EXPIRE 1923

| | |
|-----------------------|---------|
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| | |
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Instructor in Agricultural Engineering.

C. L. POUNCEY,
Instructor in Agricultural Engineering.

C. J. HUTCHINSON, JR., B. S.,
Instructor in Agricultural Engineering.

P. H. WALSER, B. S.,
Instructor in Animal Husbandry.

L. L. FOURAKER, B. S.,
Instructor in Electrical Engineering.

L. A. KOENIG, B. A.,
Instructor in Chemistry.

E. S. WILSON, B. S.,
Instructor in Chemistry.

J. R. SHANNON, B. S.,
Instructor in Mechanical Engineering.

F. R. JONES, B. S.,
Instructor in Agricultural Engineering.

B. F. K. MULLINS, A. B.,
Instructor in Drawing.

F. S. DIAL,
Instructor (Federal Students).

THOMAS CODY, First Sergeant, U. S. Army,
Assistant Instructor in Military Science and Tactics.

G. O. GRIFFIN, First Sergeant, U. S. Army,
Assistant Instructor in Military Science and Tactics.

J. A. HANDRICK,
Assistant Instructor in Agricultural Education.

T. A. FRITTS,
Assistant Instructor in English.

J. B. OLIPHINT,
Assistant Instructor in English.

FRANKE RABKE, Master Sergeant, U. S. Army,
Assistant Instructor in Military Science and Tactics.

D. M. DWIGGINS, Sergeant, U. S. Army,
Assistant Instructor in Military Science and Tactics.

SUMMARY OF TEACHING STAFF AS OF APRIL 1, 1921

| | |
|-----------------------------|----|
| Professors | 43 |
| Associate Professors | 41 |
| Assistant Professors | 31 |
| Instructors | 37 |
| Assistant Instructors | 7 |

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THE SCHOOL OF AGRICULTURE.

FACULTY

WILLIAM BENNETT BIZZELL, Ph. D., D. C. L., LL. D.,
President.

E. J. KYLE, M. S. A.,
Dean.

CHARLES PURYEAR, M. A., C. E., LL. D.,
Dean of the College.

M. FRANCIS, D. V. M.,
Professor of Veterinary Anatomy.

M. S. KYLE, M. S. A.,
Professor of Horticulture.

C. P. FOUNTAIN, A. M.,
Professor of English.

O. M. BALL, M. A., Ph. D.,
Professor of Biology.

J. B. BAGLEY, B. A.,
Professor of Textile Engineering.

J. OSCAR MORGAN, M. S. A., Ph. D.,
Professor of Agronomy.

C. C. HEDGES, A. B., Ph. D.,
Professor of Chemistry and Chemical Engineering.

M. L. HAYES, A. M.,
Professor of Vocational Teaching.

C. B. CAMPBELL, Ph. D.,
Professor of Modern Languages.

R. P. MARSTELLER, D. V. M.,
Professor of Veterinary Medicine and Surgery.

O. W. SILVEY, A. M., Ph. D.,
Professor of Physics.

F. B. CLARK, M. A., Ph. D.,
Professor of Economics.

E. O. SIECKE, B. A., B. S.,
Professor of Forestry.

S. W. BILSING, M. A.,
Professor of Entomology.

J. F. McDONALD, A. M.,
Professor of History.

D. SCOATES, A. E.,
Professor of Agricultural Engineering.

P. K. WHELPTON, B. S.,
Professor of Farm Management.

G. S. TEMPLETON, B. S.,
Professor of Animal Husbandry.

R. L. POU, M. S.,
Professor of Dairy Husbandry.

WM. E. GARNETT, M. A., Ph. D.,
Professor of Rural Social Science.

A. T. POTTS, M. S.,
Professor of Vegetable Gardening.

E. OSCAR RANDOLPH, M. A., D. Litt.,
Professor of Geology.

W. L. STANGEL, B. S., A. M.,
Professor of Animal Husbandry.

D. W. WILLIAMS, M. S.,
Professor of Animal Husbandry.

W. T. BALS, Captain, U. S. Army,
Professor of Military Science and Tactics.

W. H. H. MORRIS, Major, U. S. Army,
Professor of Military Science and Tactics.

J. HORACE KRAFT, A. B., B. S.,
Professor of Agricultural Education.

W. H. THOMAS, B. Lit.,
Associate Professor of English.

C. A. WOOD, M. S.,
Associate Professor of Agronomy.

F. HENSEL, M. S.,
Associate Professor of Horticulture.

R. D. BRACKETT, A. B.,
Associate Professor of English.

H. R. BRAYTON, A. B., M. S.,
Associate Professor of Chemistry.

C. W. BURCHARD, A. M.,
Associate Professor of Chemistry and Chemical Engineering.

HUGH CASSIDAY, A. M.,
Associate Professor of Biology.

T. J. CONWAY, B. S.,
Associate Professor of Poultry Husbandry.

N. L. T. NELSON, Ph. D.,
Associate Professor of Biology.

D. B. COFER, A. B.,
Associate Professor of English.

J. A. CLUTTER, B. S.,

Associate Professor of Dairy Husbandry.

S. D. SNYDER, B. S.,

Associate Professor of Agricultural Engineering.

H. S. SALISBURY, M. S.,

Associate Professor of Geology.

W. A. STONE, S. B.,

Associate Professor of Chemistry and Chemical Engineering.

L. D. BAILIFF, A. M.,

Associate Professor of Modern Languages.

R. K. FLETCHER, M. A.,

Associate Professor of Entomology.

A. R. CAHN, M. S.,

Associate Professor of Biology.

L. E. DOWD,

Associate Professor of Textile Engineering.

D. S. BUCHANAN,

Associate Professor of Animal Husbandry.

J. H. STALLINGS, M. S.,

Associate Professor of Agronomy.

A. L. DARNELL, B. S., M. A.,

Associate Professor of Dairy Husbandry.

H. P. SMITH, B. S.,

Associate Professor of Agricultural Engineering.

J. B. ALFORD, B. S.,

Associate Professor of Animal Husbandry.

THE SCHOOL OF ENGINEERING.

FACULTY

WILLIAM BENNETT BIZZELL, Ph. D., D. C. L., LL. D.,
President.

J. C. NAGLE, M. A., M. C. E.,
Dean.

CHARLES PURYEAR, M. A., C. E., LL. D.,
Professor of Mathematics.

C. P. FOUNTAIN, A. M.
Professor of English.

E. J. FERMIER, M. E.,
Professor of Mechanical Engineering.

J. B. BAGLEY, B. A.,
Professor of Textile Engineering.

F. C. BOLTON, B. S.,
Professor of Electrical Engineering.

A. MITCHELL, B. C. E.,
Professor of Drawing.

C. C. HEDGES, A. B., Ph. D.,
Professor of Chemistry and Chemical Engineering.

C. B. CAMPBELL, Ph. D.,
Professor of Modern Languages.

O. W. SILVEY, A. M., Ph. D.,
Professor of Physics.

F. B. CLARK, M. A., Ph. D.,
Professor of Economics.

J. C. NAGLE, M. A., M. C. E.,
Professor of Civil Engineering.

J. F. McDONALD, A. M.,
Professor of History.

E. B. LaROCHE, B. Arch.,
Professor of Architecture and Architectural Engineering.

LOUIS R. DOUGHERTY, Major, U. S. Army,
Professor of Military Science and Tactics.

H. E. SMITH, M. E.,
Professor of Steam Engineering.

J. J. RICHEY, C. E.,
Professor of Structural Engineering.

R. F. SMITH,
Professor of Mathematics.

O. B. WOOTEN, B. S.,
Professor of Applied Electricity.

M. K. THORNTON, B. S., A. M.,
Professor of Industrial Chemistry.

E. OSCAR RANDOLPH, M. A., D. Litt.,
Professor of Geology.

J. M. KELLOGG, M. Arch.,
Professor of Architecture and Architectural Engineering.

W. J. EMMONS, Sc. B., A. M.,
Professor of Highway Engineering.

L. A. KURTZ, Captain, U. S. Army,
Acting Professor of Military Science and Tactics.

C. W. RUSSELL, Major, U. S. Army,
Professor of Military Science and Tactics.

W. H. THOMAS, B. Lit.,
Associate Professor of English.

R. D. BRACKETT, A. B.,
Associate Professor of English.

H. R. BRAYTON, A. B., M. S.,
Associate Professor of Chemistry.

C. W. BURCHARD, A. M.,
Associate Professor of Chemistry and Chemical Engineering.

G. A. GEIST, B. S.,
Associate Professor of Free-hand Drawing.

J. W. MITCHELL, B. A.,
Associate Professor of Mathematics.

D. B. COFER, A. B.,
Associate Professor of English.

BYRON BIRD, C. E.,
Associate Professor of Civil Engineering.

H. S. SALISBURY, M. S.,
Associate Professor of Geology.

W. A. STONE, S. B.,
Associate Professor of Chemistry and Chemical Engineering.

L. D. BAILIFF, A. M.,
Associate Professor of Modern Languages.

J. W. RAMSEY, E. E.,
Associate Professor of Electrical Engineering.

B. D. MARBURGER, B. S.,
Associate Professor of Railroad Engineering.

J. S. STAUDT, A. M.,
Associate Professor of Railroad Engineering.

G. E. GRANTHAM, A. M., Ph. D.,
Associate Professor of Physics.

H. HALPERIN, E. E., A. M.,
Associate Professor of Mathematics.

L. S. EATON, M. E.,
Associate Professor of Mechanical Engineering.

F. H. FISH, B. S.,
Associate Professor of Chemistry.

THE SCHOOL OF VETERINARY MEDICINE.

FACULTY

WILLIAM BENNETT BIZZELL, Ph. D., D. C. L., LL. D.,
President.

M. FRANCIS, D. V. M.,
Dean.

CHARLES PURYEAR, M. A., C. E., LL. D.,
Dean of the College.

M. FRANCIS, D. V. M.,
Professor of Veterinary Anatomy.

C P. FOUNTAIN, A. M.,
Professor of English.

O. M. BALL, M. A., Ph. D.,
Professor of Biology.

C. C. HEDGES, A. B., Ph. D.,
Professor of Chemistry and Chemical Engineering.

C. B. CAMPBELL, Ph. D.,
Professor of Modern Languages.

R. P. MARSTELLER, D. V. M.,
Professor of Veterinary Medicine and Surgery.

O. W. SILVEY, A. M., Ph. D.,
Professor of Physics.

S. W. BILSING, B. S., M. A.,
Professor of Entomology.

G. S. TEMPLETON, B. S.,
Professor of Animal Husbandry.

R. L. POU, M. S.,
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W. H. THOMAS, B. Lit.,
Associate Professor of English.

R. D. BRACKETT, A. B.,
Associate Professor of English.

D. B. COFER, A. B.,
Associate Professor of English.

N. S. BLACKBERG, D. V. M.,
Associate Professor of Veterinary Physiology and Pharmacology.

A. A. LENERT, B. S., D. V. M.,
Associate Professor of Veterinary Medicine.

E. W. PRICE, D. V. M.,
Associate Professor of Veterinary Pathology.

L. D. BAILIFF, A. M.,
Associate Professor of Modern Languages.

THE AGRICULTURAL EXPERIMENT STATION.

WILLIAM BENNETT BIZZELL, Ph. D., D. C. L., LL. D.,
President.

B. YOUNGBLOOD, M. S.,
Director.

STATION STAFF: (As of February 15, 1921).

Administration:

B. YOUNGBLOOD, M. S., Director.
CHARLES A. FELKER, Chief Clerk.
A. S. WARE, Secretary.
A. D. JACKSON, Executive Assistant.
CHARLES SOSOLIK, Technical Assistant.
M. P. HOLLEMAN, Jr., Assistant Chief Clerk.

Veterinary Science:

*M. FRANCIS, D. V. M., Chief.
H. SCHMIDT, D. V. S., Veterinarian.
D. H. BENNETT, V. M. D., Veterinarian.

Chemistry:

G. S. FRAPS, Ph. D., Chief; State Chemist.
S. E. ASBURY, M. S., Assistant Chemist.
S. LOMANITZ, B. S., Assistant Chemist.
J. B. SMITH, B. S., Assistant Chemist.
WALDO WALKER, Assistant Chemist.

Horticulture:

H. NESS, M. S., Chief.
W. S. HOTCHKISS, Horticulturist.

Animal Industry:

J. M. JONES, A. M., Chief; Sheep and Goat Investigations.
R. M. SHERWOOD, B. S., Poultry Husbandman.
G. R. WARREN, B. S., Animal Husbandman in Charge of Swine
Investigations.
....., Dairy Husbandman.
R. A. BREWER, B. S., Assistant Animal Husbandman, Sheep and
Goat Investigations.

Entomology:

M. C. TANQUARY, Ph. D., Chief; State Entomologist.
H. J. REINHARD, B. S., Entomologist.
L. R. WATSON, A. M., Apiarist.
C. S. RUDE, B. S., Assistant Entomologist.

Agronomy:

A. B. CONNER, B. S., Chief; Crops.
A. H. LEIDIGH, B. S., Agronomist, Soils.
E. B. REYNOLDS, M. S., Agronomist, Small Grains.
E. W. GEYER, B. S., Agronomist, Farm Superintendent.
**SALOME COMSTOCK, B. S., Feed Analyst.

Plant Pathology and Physiology:

J. J. TAUBENHAUS, Ph. D., Chief.

Feed Control Service:

F. D. FULLER, M. S., Chief.

S. D. PEARCE, Executive Secretary.

Forestry:

E. O. SIECKE, B. S., Chief; State Forester.

Plant Breeding:

....., Chief.

Farm and Ranch Economics:

A. B. COX, Ph. D., Chief.

J. W. ELLIOTT, B. S., Graduate Assistant.

Soil Survey:

**W. T. CARTER, JR., B. S., Chief.

T. M. BUSHNELL, B. S., Soil Surveyor.

H. W. HAWKER, Soil Surveyor.

Substations:

No. 1, Beeville, Bee County:

I. E. COWART, M. S., Superintendent.

No. 2, Troup, Smith County:

W. S. HOTCHKISS, Superintendent.

No. 3, Angleton, Brazoria County:

V. E. HAFNER, B. S., Superintendent.

No. 4, Beaumont, Jefferson County:

A. H. PRINCE, B. S., Superintendent.

No. 5, Temple, Bell County:

D. T. KILLOUGH, B. S., Superintendent.

No. 6, Denton, Denton County:

C. H. McDOWELL, B. S., Superintendent.

No. 7, Spur, Dickens County:

R. E. DICKSON, B. S., Superintendent.

No. 8, Lubbock, Lubbock County:

R. E. KAPER, B. S., Superintendent.

No. 9, Pecos, Reeves County:

V. L. CORY, B. S., Superintendent.

No. 10, College Station, Brazos County:

(Feeding and Breeding Substation)

L. J. McCAIL, Superintendent.

No. 11, Nacogdoches, Nacogdoches County;

G. T. McNESS, Superintendent.

**No. 12, Chillicothe, Hardeman County:

A. B. CRON, B. S., Superintendent.

No. 14, Sonora, Sutton-Edwards Counties:

E. M. PETERS, B. S., Superintendent.

*In co-operation with the School of Veterinary Medicine, A. & M. College of Texas.

**In co-operation with United States Department of Agriculture.

THE ENGINEERING EXPERIMENT STATION.

WILLIAM BENNETT BIZZELL, Ph. D., D. C. L., LL. D.,
President.

J. C. NAGLE, M. A., C. E.,
*Dean of Engineering,
Director.*

ADVISORY COUNCIL

E. B. LaROCHE, B. Arch.,
Professor of Architecture and Architectural Engineering.

C. C. HEDGES, A. B., Ph. D.,
Professor of Chemistry and Chemical Engineering.

F. B. CLARK, M. A., Ph. D.,
Professor of Economics.

F. C. BOLTON, B. S.,
Professor of Electrical Engineering.

E. J. FERMIER, M. E.,
Professor of Mechanical Engineering.

O. W. SILVEY, A. M., Ph. D.,
Professor of Physics.

J. B. BAGLEY, B. A.,
Professor of Textile Engineering.

W. J. EMMONS, Sc. B., A. M.,
Professor of Highway Engineering.

THE EXTENSION SERVICE.

WILLIAM BENNETT BIZZELL, Ph. D., D. C. L., LL. D.,
President.

T. O. WALTON,
Director.

W. B. LANHAM,
Assistant Director.

S. C. HOYLE,
Editor.

D. L. WEDDINGTON,
Chief Clerk.

Farm Demonstration Work:

H. H. WILLIAMSON, State Agent.
R. W. PERSON, Assistant State Agent.
J. B. BEERS, Specialist in Cotton Classing.
M. R. BENTLEY, Agricultural Engineer.
A. W. BUCHANAN, District Agent.
W. B. COOK, Beef Cattle Specialist.
W. H. DARROW, District Agent.
M. M. DAUGHERTY, Farm Management Specialist.
JOHN R. EDMONDS, District Agent.
JOHN T. EGAN, District Agent.
C. M. EVANS, Agent in Dairying.
M. E. HAYS, Horticulturist.
F. W. KAZMEIER, Poultry Husbandman.
R. R. LANCASTER, Rural Organizer.
W. T. MAGEE, Sheep and Goat Specialist.
E. A. MILLER, Sweet Potato Specialist.
G. W. ORMS, District Agent.
CLARENCE OUSLEY, Rural Economist.
R. R. REPPERT, Entomologist.
S. G. RUBINOW, Organization Specialist.
A. K. SHORT, Agronomist.
A. L. SMITH, District Agent.
GEORGE A. SMITH, District Agent.
J. E. STANFORD, District Agent.
J. LYNN THOMAS, Dairy Husbandman.
A. L. WARD, Swine Husbandman.
T. B. WOOD, District Agent.

Home Demonstration Work:

MISS LAURA F. NEALE, State Home Demonstration Agent.
MISS M. HELEN HIGGINS, Ass't. State Home Demonstration Agent.
MRS. DORA R. BARNES, Clothing Specialist.
MRS. MAGGIE, W. BARRY, Special Agent.
MISS BENNIE CAMPBELL, District Home Demonstration Agent.
MRS. KATE LEE DAUGHERTY, District Home Demonstration Agent.
MISS BESS EDWARDS, District Home Demonstration Agent.

MISS MAYME HAZLE, Poultry Specialist.
MISS MILDRED HORTON, District Home Demonstration Agent.
MISS MARY JESSIE STONE, District Home Demonstration Agent.

Negro Extension Work:

C. H. WALLER, Leader Negro Extension Work.
H. S. ESTELLE, District Agent.
J. H. FORD, District Agent.
MRS. M. E. V. HUNTER, District Agent.

ADMINISTRATION OF STATE LAWS

Feed Control Law

Administered by the Director of the Agricultural Experiment Station.

Fertilizer Law

G. S. FRAPS, Ph. D.,
State Chemist.

S. E. ASBURY, M. S.
Assistant State Chemist.

S. LOMANTIZ,
Assistant Chemist.

H. B. SMITH,
Inspector.

Foul Brood Law

M. C. TANQUARY, Ph. D.,
State Entomologist.

Forestry Law

E. O. SIECKE, B. A., B. S.,
State Forester.

C. D. MARCKWORTH, M. F.,
Assistant State Forester.

LENTHALL WYMAN, M. F.,
Assistant State Forester.

OTHER OFFICERS OF THE COLLEGE

S. G. BAILEY,

*Executive Secretary to the President,
Secretary to the Board of Directors.*

J. E. LEWIS,

Student Adviser, Secretary, Young Men's Christian Association.

FRANK C. MARTIN,

Publicity Agent.

D. X. BIBLE,

Instructor and Coordinator of Physical Training.

JAMES SULLIVAN,

Director of Physical Training.

C. J. ROTHGEB,

Assistant in Physical Training.

R. K. CHATMAN,

Manager, Cadet Exchange Store.

J. R. GULLEDGE, B. A.,

Acting Librarian.

MRS. W. H. THOMAS,

Assistant Librarian.

MISS NELL E. PRYOR,

Assistant Librarian.

H. A. WIDDECKE,

Accountant.

CECIL R. ESTILL,

Cashier.

FIRST SERGEANT GEORGE SMART, U. S. ARMY, Retired,
Assistant Commandant.

JULIAN R. WRIGHT,

Assistant Commandant.

PART II
GENERAL INFORMATION

GENERAL INFORMATION.

LOCATION.

The College is situated at College Station, in the county of Brazos, and is 350 feet above sea level. The Houston & Texas Central and the International & Great Northern Railroads run through the grounds, daily trains stopping at the stations, about 650 yards from the Academic Building. Students and visitors are advised to take trains arriving in daytime.

College Station is a money order postoffice. Letters intended for persons at the College should not be directed to Bryan. At College Station there are telegraph and express offices.

HISTORICAL SKETCH.

The Agricultural and Mechanical College of Texas, like the land grant institutions in other States of the Union, owes its origin to an act of Congress approved July 2, 1862. This act donated public lands to the several States and Territories which might provide colleges for the benefit of agriculture and the mechanic arts, and directed the Secretary of the Interior to issue land scrip to the States in which there was not the requisite quantity of public land. The act further directed that the money derived from this source should constitute a perpetual fund, the principal of which should remain forever undiminished, and the interest of which should be inviolably appropriated by each State to the endowment, support and maintenance of at least one technological college, whose leading object should be, without excluding other scientific and classical studies, and including military tactics, to teach branches of learning pertaining to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life. It was further provided that the provisions of the act should be formally accepted by the State Legislature. By joint resolution approved November 1, 1866, the Legislature of Texas accepted the provisions of the Congressional legislation, and accordingly there was issued to Texas scrip for 180,000 acres of public land, which was sold for \$174,000. This amount was invested in Texas 7 per cent gold frontier bonds. At the time of the opening of the College there was an addition to the fund of accrued interest amounting to \$35,000, which was invested in 6 per cent. State bonds.

In an act approved April 17, 1871, the Legislature provided for the establishment of the Agricultural and Mechanical College. A commission to locate the College was created by the Legislature. After careful investigation, the Commission accepted the proposition of the citizens of Brazos county, and located the institution on a tract of 2416 acres of land in that county. Finally, the constitutional convention of 1876

constituted the College a branch of the University of Texas, and, in accordance with the terms of the Federal legislation, designated it as an institution for instruction in agriculture and the mechanic arts and the natural sciences connected therewith. The convention further provided that the Legislature should have the right to levy taxes for the maintenance and support of the Agricultural and Mechanical College.

The College was formally opened for the reception of students October 4, 1876. By means of financial aid voted by Congress and of appropriations made by the State Legislature, there has been developed a considerable foundation at the College for instruction, for investigation, and for extension.

GOVERNMENT.

The government of the College is vested in a Board of nine directors, appointed by the Governor for terms of six years.

ADMINISTRATION.

The immediate regulation and direction of the affairs of the College are delegated by the Board of Directors to the President and the Faculty.

ORGANIZATION.

The College comprises the Schools of Agriculture, of Engineering, of Veterinary Medicine; the Agricultural Experiment Station, the Engineering Experiment Station, the Extension Service, and the Summer Session.

DEPARTMENTS.

The College has now in operation twenty-nine departments of instruction, which are listed under the heading "Courses of Instruction by Departments."

DISCIPLINE.

Discipline is administered by the Commandant. The regulations are designed with the view of securing consistent conformity to the following

General Requirement.—Every student is expected at all times to conform to the ordinary rules of gentlemanly conduct; to be truthful; to respect the rights of others; to be punctual and regular in attendance upon all required exercises; to apply himself diligently to his studies; and to have due regard for the preservation of College property.

Students are not allowed to leave the College grounds, either to visit neighboring towns or their homes, without first securing a furlough from the Commandant. When a student overstays a furlough his name may be dropped from the rolls.

For improper conduct, or failure to keep up with his studies a student may at any time be required to withdraw from the College.

MILITARY ORGANIZATION.

All military instruction is under the immediate charge of the Professor of Military Science and Tactics.

The officers and non-commissioned officers are selected from the Senior and Junior classes. Their appointments are dependent upon the active and soldierly performance of their duties, their sense of duty and responsibility, and their general good conduct and class standing.

The main objects of the military instruction are three, as follows:

1.—To develop the student physically through drill and other exercises.

2.—To develop him mentally by requiring him to perform the duties imposed upon him, which demand tact, thought, and initiative.

3.—To build character by insisting on proper submission to discipline, which entails self-control, and by insisting on the student's meeting the responsibilities which are placed upon him.

The finished product should be a man of robust health, correct carriage, strong character, with a proper regard for constituted authority.

RESERVE OFFICERS' TRAINING CORPS.

The Act of Congress of June 3, 1916, known as the National Defense Act, provides for the establishment in civil educational institutions of units of the Reserve Officers' Training Corps (R. O. T. C.). The object of the Reserve Officers' Training Corps is best stated by the War Department in its Special Regulations No. 44, which govern the R. O. T. C., and is as follows:

Object.—The primary object of the Reserve Officers' Training Corps is to provide systematic military training at civil educational institutions as reserve officers in the military forces of the United States. It is intended to attain this object during the time that students are pursuing their general or professional studies with the least practicable interference with their civil careers, by employing methods designed to fit men physically, mentally, and morally for pursuits of peace as well as pursuits of war. It is believed that such military training will aid greatly in the development of better citizens. It should be the aim of educational institutions to maintain one or more units of the Reserve Officers' Training Corps in order that in time of national emergency there may be instantly available a large number of educated men physically efficient and trained in the fundamentals of military science

and tactics and fitted to lead intelligently the units of the armies upon which the safety of the country will depend. The extent to which this object is accomplished will be the measure of the success of the Reserve Officers' Training Corps.

The general policy is outlined in the above regulations and is here quoted.

"General Policy.—a. The policy adopted by the War Department to carry out the provisions of the Act of Congress of June 3, 1916, is a matter of vital importance to every citizen interested in the educational system of our country and the development of American youth. It will aim to give all students of the Reserve Officers' Training Corps a thorough physical training, to inculcate in them a respect for lawful authority, to teach the fundamentals of the military profession, leadership, and the special knowledge required to enable them to serve efficiently in the various branches of the military service.

b. The War Department aims to establish in selected civil educational institutions a system of training which will tend toward making better citizens and furnish a means whereby the graduates of such institutions can function more advantageously to the best interests of the nation in time of military necessity."

Under the provisions of the National Defense Act, the President of the United States has authorized the organization of five units of the R. O. T. C. at this college, namely: Infantry, Field Artillery, Aviation, Signal Corps, and Cavalry. In accordance with this act and the rules and regulations governing the R. O. T. C., all students of this institution who are physically fit are required to take the basic course in the R. O. T. C., which includes the first two years of the course, except that mature men who enter with advanced standing in a considerable number of subjects may, for reasons satisfactory to the faculty, be excused from military duty. This provision is intended to apply particularly to men who have had considerable experience in teaching or other professional work; also to students who have had not less than six months active service in the United States Army, Navy, or Marine Corps.

This course, when entered upon, becomes a prerequisite to graduation, and carries with it credits corresponding to other class work. Upon entering, students will be required to select the branch of the service in which they desire to take instruction. They will be assigned to units according to their selection as far as practicable by the head of the Department, taking into consideration their fitness and the number allowed by the War Department in the various branches. In general, all students are eligible for the Infantry, Cavalry, or Field

Artillery units. The Signal Corps unit requires such knowledge of electricity that only students pursuing the Electrical Engineering course or who have already acquired its equivalent are eligible without a great deal of extra electrical instruction. Requirements for Air Service are Electrical courses or their equivalent, and the most rigid physical examination. The training in units in the R. O. T. C. is divided into two courses, namely: the basic course and the advanced course. The basic course consists of the first two years, namely: Freshman and Sophomore, and the advance course consists of the last two years, namely: Junior and Senior.

BASIC COURSE.

Obligations.—Members of the basic course are not obligated further than to pursue the course diligently and properly to care for the equipment and apparatus used in the instruction.

Benefits. a.—Each student will be furnished commutation of uniform, which at present amounts to \$36.00 the Freshman year and \$9.00 the Sophomore year.

b.—Students in the basic course after having completed their first year may attend the basic course camp at the expense of the Government which furnishes transportation to and from camp and rations or commutation of rations during travel and while at camp.

ADVANCED COURSE.

In order to continue in the R. O. T. C. for the advanced course, i.e., during the Junior and Senior years, a student must be selected by the president of the institution and the Professor of Military Science and Tactics and he must obligate himself to attend the advanced course camp as prescribed by the Secretary of War, and he is expected, except for good and sufficient reasons, to accept a commission in the Officers' Reserve Corps if such commission is offered him. This course, including the prescribed camp training, when entered upon becomes a prerequisite to graduation.

Obligations.—a. The student obligates himself to pursue the course while at the College.

b. To attend the advanced course camp.

c. To take proper care of the equipment furnished him.

d. He is expected, though not bound, to accept a commission in the Officers' Reserve Corps if offered one, unless prevented by unusual conditions.

Benefits.—a. He will receive commutation of uniforms at the rate of \$36.00 for the first year and \$9.00 for the second year.

b. He will be furnished subsistence now allowed at \$.53

per day from the beginning of his Junior year to the end of his Senior year, except during camp when he is given rations in kind. Commutation of rations will not be paid for more than two years.

c. While at camp he will receive \$1.00 per day. He will receive transportation to and from the camp.

d. After graduation he may be eligible for appointment in the Officers' Reserve Corps and, if so appointed, he may, under certain conditions, be appointed and commissioned as a temporary second lieutenant in the Regular Army for a period not to exceed six months with pay at the rate of \$100 per month and the allowances of a second lieutenant of the Regular Army.

e. Graduates of the College in the R. O. T. C. may be given an opportunity by the War Department to take competitive examination for commission as second lieutenant in the Regular Army.

f. They may obtain commissions as officers with native troops in the Phillipine Islands.

g. For every year that this institution maintains its classification as a distinguished institution with the War Department, the honor graduate selected by the President of the College and the Professor of Military Science and Tactics may be appointed a second lieutenant in the Regular Army with only the physical examination.

WITHDRAWAL FROM THE R. O. T. C.

For satisfactory reasons, upon recommendation of the Professor of Military Science and Tactics, the authorities of the institution may discharge members of the R. O. T. C. from such corps and from the necessity of completing the course in military training as a prerequisite to graduation.

REHABILITATION OF DISABLED SOLDIERS.

Special elementary courses in various phases of agriculture, poultry husbandry, bee keeping, highway work and cotton classing have been organized for disabled soldiers, being trained under the supervision of the Federal Board for Vocational Education.

These courses are, in general, similar to courses provided for other students but are modified to provide a definite objective for the men in training.

METHOD AND SCOPE OF INSTRUCTION.

In all courses the fundamental idea is education in practical science. With this idea in view, instruction is given in English, history, economics, mathematics, physics, chemistry, and in other studies which lie at the foundation of a sound education and furnish the best preparation for the more technical studies of the several courses. Instruction is given by the

use of text-books, by lectures and recitations; also by practice in the shop, field, laboratory, and drawing room. These practical exercises have a high educational value, and serve a useful purpose in fixing and rendering clear the ideas presented in the class room; they have also a practical value; for they are, in great measure, examples of just such problems as the graduate will encounter in the pursuit of his calling. For convenience of instruction, the classes are subdivided into sections of suitable size. Unannounced written exercises and tests are given at the discretion of instructors. Regular written examinations are held at the end of each term.

NON-RESIDENT LECTURERS.

At intervals throughout the session, men who have attained prominence in some branch of agriculture or engineering or in other lines are invited to address the students with the view of enabling them to see more closely the relation between their college instruction and the work they will be called upon to do after they enter upon their professional careers.

TRIPS OF INSPECTION.

At suitable times during the session trips of inspection, under the direction of some member of the teaching staff, are made to points of special interest. These trips have a high instructional value, and students of the upper classes are encouraged, though not required, to take them.

ELECTIVE STUDIES.

Elective studies are to be chosen by the student under the advice and direction of a member of the Faculty designated for the purpose, and subject to schedule. The choice of electives for any year must be made by April 15 of the preceding year. The right is reserved to withdraw any course not required for graduation, if it should be chosen by fewer than five students.

ABSENCES.

When a student is absent from recitation a considerable number of times, his absences are taken into account in making up his term grade, unless the work missed is satisfactorily made up before the time set for the examination.

In any theory subject if a student's absences, when not due to sickness or to military duty, exceed one-eighth of the number of recitations scheduled for the subject, his daily average in that subject will not be above 65.

FEE FOR CHANGING COURSES OR TAKING UP NEW SUBJECTS.

For changing from one course to another at any time after the beginning of the term there will be a fee of three dollars. For taking up a new subject later than two weeks after the beginning of a term there will be a fee of one dollar.

REPORTS.

In order to keep parents systematically informed concerning the progress of their sons, reports, showing class standing and record of conduct, are sent out from the Dean's office at the end of each term. A preliminary report is sent out soon after December 1.

HEALTH.

The buildings of the College are situated on the crest of a wide divide, with sufficient slope in every direction to insure proper drainage. The health of the student body, as shown by the daily records of the institution, is all that could be expected at any location in the State.

The work of sanitation is carried on throughout the entire year, with especial reference to the eradication of mosquitoes, flies and other disease-bearing agencies.

Drinking water is supplied by wells varying in depth from 300 feet to 1300 feet.

The barracks are inspected daily, and are kept neat and clean throughout. The rooms are well lighted and comfortable.

Drill, shop and field practice, work and outdoor athletic sports furnish sufficient and varied exercise and contribute very much to the maintenance of health and proper physical development.

There is no endemic disease at the College; most of the sickness is the result of indiscretion on the part of the student or is due to the introduction of some mild epidemic disease, such as measles or mumps.

ATHLETICS.

The usual forms of athletic sports are encouraged. The College is a member of the Southwest Athletic Conference. The general rules of eligibility of this organization have been adopted by the Faculty. The Faculty Committee on Athletics is entrusted with the general oversight of athletics.

BAND.

An attractive feature is a regularly organized cadet band. Under the direction of a leader employed by the College, it furnishes music for occasions of social and military importance, gives open-air concerts in season, leads the regiment in marching to dinner, and plays at dress parade.

RELIGIOUS AND MORAL CULTURE.

There is religious service in the chapel every Sunday for the corps of cadets and the residents of the campus. A Sunday school for Bible study, attendance at which is voluntary, affords additional help in the way of ethical training. Every effort is made through lecture and personal example to de-

velop and protect good morals in the young men attending the institution.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

The Young Men's Christian Association occupies a handsome building in which ample provision is made for the meetings of the Association, for Bible study, for social gatherings, and for games. In the basement there is a well appointed swimming pool.

Y. M. C. A. SCHOLARSHIPS.

During the recent war the National War Work Committee of the Y. M. C. A. raised a large fund to be expended for the benefit of American soldiers. At the close of the war, it was decided to devote the unexpended part of this fund to the education of ex-service men, and the sum of \$200,000.00 was allotted to the State of Texas for that purpose. It has been administered by the State Committee of the Y. M. C. A. of Texas, which has granted nearly four thousand scholarships to Texas ex-service men for correspondence courses, business courses, and regular college courses. The following have held such scholarships in this College: W. H. Armstrong, J. C. Brown, Claude Conjon, D. D. Clinton, M. S. Fitzwilliam, T. G. Gilley, R. M. Hudnall, L. G. Jones, J. S. Knapp, E. C. Livingston, W. L. Miller, Claude A. Moore, T. P. Osborne, R. E. L. Pařilo, C. B. Potts, W. G. Rowland, W. P. Trice, Abner Ussery, T. B. Van Tuyl, J. E. Woods.

THE LIBRARY.

The Library contains approximately 18,000 volumes, including between 2,000 and 2,500 bound public documents, and exclusive of the files of the Federal and State Agricultural Bulletins. While the Library has hitherto been modeled chiefly along reference lines a very good reading Library has now been accumulated, and the careful selection of new books keeps the collection abreast of contemporary thought. With the exception of books of general reference, current periodicals, and books temporarily reserved by certain departments for required reading all books are loaned for home use for a period of two weeks, with the privilege of renewal for the same length of time.

The Library receives one hundred and seventy five standard magazines, reviews and technical journals besides the leading newspapers of the State, and some journals of national importance. Files are kept of some of the most important of these periodicals.

The Library is a United States designated depository and receives copies of all Federal publications. A card index is maintained of all publications of the United States Department of Agriculture and of the State Experiment Stations.

The Library is open on week days and holidays from 8 a. m. to 12 m., from 1 p.m. to 5 p.m., and from 7 p.m. to 10:00 p.m. The Sunday hours are from 2 to 5 p. m.

PUBLICATIONS.

The following publications are issued by the College:

The Bulletin of the Agricultural and Mechanical College of Texas.—This is a monthly publication which includes the bulletins of the Texas Engineering Experiment Station, the Catalogue of the College, and the announcement of the Summer Session.

The Daily Bulletin.—This is small sheet issued daily during the regular session, which carries official notices and other announcements.

Bulletins of the Agricultural Experiment Station.—These bulletins are issued from time to time and contain reports of the results of the investigations of the Station.

The Alumni Quarterly.—The object of this publication is to keep the alumni informed as to the progress and activities of the College.

Extension Service Bulletins.—The Extension Service publishes from time to time bulletins on subjects of popular interest in the fields of agriculture and home economics.

In addition, there are issued twice a month an *Extension Service News Letter* of seasonal advice, and numerous circulars from time to time covering both matters of general agricultural interest and matters of unexpected development.

Student Publications.—The students of the College publish *The Battalion*, a weekly devoted to student activities, and interests. The Senior Class publishes an Annual, *The Longhorn*.

The Young Men's Christian Association publishes at the opening of the session a *Handbook* giving information of value particularly to new students.

EXPULSIONS.

At a joint session of the Board of Regents of the University of Texas and the Board of Directors of the Agricultural and Mechanical College, held at College Station, Texas, from June 30 to July 1, 1896, the following order was made:

"It is ordered that hereafter, when any student shall be dismissed or expelled from either of the branches of the University of Texas on account of any immoral or other conduct which shall render him an unfit character to be matriculated in any of such branches, it shall thereupon be the duty of the branch so expelling or dismissing such student to immediately notify the other branches of their action, whereupon such other branches shall refuse to receive such student for matriculation, or even for examination, should he apply therefor, until the branch which has so expelled

or dismissed him has rescinded or reconsidered its former action, and recommended such student for admission into such other branch at which he may apply."

GRADUATION.

A diploma of the College, with the degree corresponding to the course of study pursued, will be granted students who satisfactorily complete one of the regular courses.

No degree will be conferred without a residence of at least one year at the College. The diploma fee is \$7.50.

The fee for certificates in two-year courses is \$1.00.

HONORS.

At the end of each session students who have during the year received no term grade below B are announced as "Distinguished."

CADET EXCHANGE—BOOKS AND OTHER SUPPLIES.

The College runs an exchange store for the purpose of supplying necessary articles to students at the lowest possible cost. The store carries in stock, text-books, stationery, drawing instruments, regulation articles of the uniform, toilet articles, etc. These goods are sold at prices just sufficient to cover cost and operating expenses.

STUDENT LABOR.

The Legislature provides a fund by which a limited number of industrious young men may defray a part of their expenses by working for the College at such times as their regular duties will permit.

The rate of pay is made to depend upon the character of the work, and the manner in which it is performed. A student should not count upon earning more than \$40 a session.

CHANGES IN ANNOUNCEMENTS.

The announcements made in this Catalogue are based upon present conditions, and are subject to change without notice.

BUILDINGS.

The physical plant of the College includes nine dormitories, an academic building, a Y. M. C. A. building, a mess hall, an assembly hall, a physics building, an agricultural and horticultural building, a chemical and veterinary building, a civil engineering building, an electrical engineering building, two experiment station buildings, two mechanical engineering buildings, a textile engineering building, a hospital, a veterinary engineering building, an electrical engineering building, a dairy barn, a stock judging pavilion, a power plant, a laundry, a sewerage system, barns and outhouses, and residences

for instructors and officers, with a total valuation of approximately \$2,000,000.00.

ACADEMIC BUILDING.

The Academic Building, completed in 1914, is located on the highest part of the Campus and occupies the site of the original Main Building, which was erected in 1876, and destroyed by fire May 27, 1912. It is 89 feet wide and 260 feet long and four stories high. It provides class and lecture rooms for the departments of architecture, drawing economics, English, history, and mathematics, and quarters for the administrative offices, and the library; certain other departments have been assigned temporary quarters in this building. The building is constructed of brick and reinforced concrete, and is fireproof.

BERNARD SBISA HALL.

This is a one-story, fireproof building erected in 1912, to replace the Mess Hall destroyed by fire in October, 1911. It is named in honor of Bernard Sbisa, Supervisor of Subsistence. The seating capacity is 2,000 and the appointments of the building are modern in every respect.

Y. M. C. A. BUILDING.

The Y. M. C. A. Building occupies one of the best locations on the Campus. The building proper is "T" shaped in plan, eighty-nine feet across the front and one hundred and eleven feet from front to rear. It is three stories high, exclusive of basement, with front portion surrounded by a wide terrace that forms a portion of the basement story. A barber shop, bowling alleys, locker rooms, shower baths, and swimming pool occupy the basement space; the lobby, auditorium and Secretary's office the first floor; two large social rooms and toilets the second floor; and a large conference room, dining room, pantry, and nine sleeping rooms with baths the third floor.

GUION HALL.

This building was erected in 1918 and is named in honor of Judge John I. Guion a former President of the Board of Directors. It is a modern college auditorium seating nine hundred and sixty on the main floor and nine hundred and forty in the balcony. The building is the terminating feature of the south end of Military Walk balancing Bernard Sbisa Hall on the north end. Its classic facade of six large columns gives a stately effect. The auditorium contains a large stage, seating as many as a hundred people, dressing rooms for men and women, and space for a modern pipe organ.

HOSPITAL.

The Hospital was erected in 1916. It is two stories and basement high, 116 feet long by 82 feet wide where its dimensions are greatest. The construction is fireproof except for the doors and windows of the wards; openings into the stair tower and elevator shaft are guarded by approved metal doors and windows.

The administration department includes a waiting room, two examining rooms, a record room, a locker room, a dispensary, a laboratory, an operating suite (surgeons' and nurses' "scrubups," sterilizing and anesthetizing and operating rooms), blanket warmers, and X-ray room, a library, and storerooms. There is an employees' dining room, a complete kitchen with supply rooms and refrigeration, and diet kitchens with dumb waiter service, steam tables and electric ranges for each floor. There are also living quarters for the staff and attendants.

The College Hospital is the first hospital building in the world to be equipped with showers throughout. There are nineteen, all provided with anti-scalding devices, those for patients being automatically regulated to discharge water of a constant pressure. There is but one permanently installed tub.

POWER PLANT.

This building, completed in 1917, is a modern fireproof structure, carefully designed to house boilers, engines and machinery used to generate heat and light and to manufacture ice for all College purposes. Space is provided for expansion to take care of future growth. The building comprises about twenty-one thousand, seven hundred square feet of floor space.

CHEMISTRY BUILDING.

This building, erected in 1902, is 138 feet long and 130 feet deep. It is built of brick and contains two stories and a basement. It contains the offices, class rooms, laboratories, and storerooms of the department of Chemistry and Chemical Engineering.

MILITARY SCIENCE BUILDING.

This building, erected in 1920, is a two story frame structure with a stucco exterior and a fire resisting roof, forty-five feet wide and seventy-one feet long. It is conveniently arranged to provide offices for the Military Staff and six large class rooms for instruction in Military Science and Tactics.

PHYSICS BUILDING.

The Physics Building, erected in 1919-20, is sixty-one feet

wide by one hundred and twenty feet long. It is modern and fireproof in all respects.

The building comprises a well lighted basement and two upper stories. In the basement are located the heat, optical and magnetic laboratories; five small laboratories, dark rooms, storage rooms, and toilets. On the first floor the general laboratory; electrical laboratory; four offices; shop, apparatus rooms and toilets are located; and on the second floor five recitation rooms; a large lecture hall; a small lecture hall; apparatus room and toilet.

AGRICULTURAL ENGINEERING BUILDING.

This building temporarily houses the department of Agricultural Engineering. It provides offices, class rooms, and laboratories for the study of gas engines, tractors, and farm equipment and machinery.

AGRICULTURAL AND HORTICULTURAL BUILDING.

This building, erected in 1899, accommodates the agricultural and horticultural departments of the College, furnishing rooms for class instruction, laboratory investigations, museum purposes, butter and cheese making, pasteurizing milk, seed storeroom, photographic room, and the necessary offices for the accommodation of these departments. This building is 160 feet long and 77 feet wide, two stories high, and covered with slate. It contains twenty-seven rooms, fitted with apparatus and machinery for the instruction of students in the several branches of agriculture and horticulture.

STOCK JUDGING PAVILION.

The Stock Judging Pavilion, built in 1917, is a fireproof building 200 feet long by 100 feet wide, containing a 160-foot by 60-foot display ring surrounded by reinforced concrete circus seats for 1600 spectators. Additional seats of the same character can be erected in the four corners and will provide 240 more sittings. The roof is of cement tile, supported by steel trusses which are carried on steel columns placed back of the seating sections between them and the wall aisles, thus providing unobstructed view for the entire audience.

The space underneath the seating sections is completely utilized. There are three class rooms with attached offices, waiting rooms, locker and toilet rooms, a washing room, a killing room with refrigeration, quarters for the custodian and ten box stalls for show stock.

DAIRY BARN.

The dairy barn, built in 1916, is a one-story hollow tile building, situated west of the railroad tracks on the principal axis of the campus. It is 200 feet long by 34 feet wide, with a

wing in rear 34 feet by 33 feet. The main part is a single room unobstructed by posts, and is used for milking only. There are stalls for 98 cows, which stand in rows back to back. A trolley carrier, suspended from the roof and running the length of the building, is used for handling the milk, which is taken through a screened passageway to a separate building of the same type of construction at the south end, where it is cooled, separated and prepared for use, and where all utensils are sterilized after each milking.

The floor of the milking room is of concrete and is washed out with a hose twice daily. All doors and windows and the openings into the ventilator running the length of the roof are screened. Conditions are ideal for the production of certified milk.

The wing in the rear contains offices, showers, supply and feed rooms.

CIVIL ENGINEERING BUILDING.

This building, erected in 1909, contains eight lecture rooms, five laboratories, five drawing rooms and several offices and storerooms.

The building is 125 feet wide and 73 feet deep; it has a basement and three stories, is heated by steam and is fireproof.

ELECTRICAL ENGINEERING BUILDING.

This building, erected in 1912, contains thirteen lecture rooms, four laboratories, two drawing rooms, and several office and storerooms.

It has a basement and three stories; is 125 feet wide by 103 feet deep; is heated by hot water, and is fireproof.

MECHANICAL ENGINEERING BUILDING.

This building, erected in 1919, is fifty-two feet wide and ninety-four feet long. It is modern and fireproof in all respects and comprises a basement and three stories.

In the basement are provided two laboratories, preparation, storage and shipping rooms. On the first floor are offices, museums and recitation rooms; on the second, offices, recitation rooms, and a library; on the third, two large drafting rooms, a lecture hall, blue print room and an office. A toilet room is located on each floor.

TEXTILE BUILDING.

This building, erected in 1904, is constructed of smooth red brick, according to the plans of an expert mill engineer, and is an excellent example of modern cotton mill construction. The construction is of the slow-burning type generally accepted by American engineers as the most satisfactory for cotton manufacturing.

The building is two stories high, 50 feet wide and 180 feet long. The first floor is occupied by the carding and spinning and warp-preparation machinery, and the professor's office. The second floor is occupied by the weaving and cloth-finishing machinery and by the designing and class rooms, and the offices of the instructors in weaving.

The building is heated throughout by a Webster vacuum system of steam heat, and a complete sprinkling system for fire protection has been installed. The plumbing in the building is perfectly sanitary and typical of the best cotton mill practice.

VETERINARY HOSPITAL.

The Veterinary Hospital, erected in 1908, contains a clinic room, 36x36 feet, eight box stalls, four tie stalls, two rooms for dogs, a large colic stall, feed room, medicine room, janitor's room, etc. The building is floored with concrete, with traps from each stall to the sewer thus permitting the proper isolation of contagious diseases and the thorough disinfection of each stall. An automatic flush tank serves to keep the building in a sanitary condition.

FRANCIS HALL.

This building was completed in 1918 to provide laboratories and class rooms for the School of Veterinary Medicine. It is of fireproof construction, 140 feet long and contains three stories and a basement. The first floor contains an office, a library, an amphitheater, an animal room, an apparatus room, a laboratory for anatomy, histology and embryology, and a laboratory for the Department of Medicine and Surgery. The second floor contains an office, a class room, a storeroom, a laboratory for physiology, and one for pharmacology. The third floor is devoted to pathological work. There are two offices, apparatus room, post-mortem room, preparation room and two laboratories, one of which is devoted to pathology and bacteriology for College work; the other to pathological problems involved in Experiment Station work.

Each floor is served by a small elevator, and has the usual toilet facilities. On each floor there are constant temperature rooms. One of these is the "hot" room, which is intended to maintain a reasonably constant temperature from 90 degrees to 110 degrees F. The other is the "cold" room, which is equipped with brine coils to provide a temperature from 30 degrees to 50 degrees F. The basement is used entirely for storage and the service pipes and apparatus.

The entire building is supplied with hot and cold hydrant water, rain water, steam heat, high pressure steam for the auto claves, gas, electricity, compressed air and vacuum. The

laboratory furniture is of special design manufactured by the Kewaunee Manufacturing Company.

SERUM LABORATORY.

The serum laboratory, built in 1917, is a one-story fireproof building 100 feet long with an average width of 32 feet. It is arranged for the manufacture of hog cholera serum. It contains observation pens, preparation rooms, killing, hyper-immunizing and bleeding rooms, defibernating rooms, laboratories, storage and packing rooms, offices and toilets.

RESEARCH CHEMISTRY BUILDING.

This building, erected in 1909, is 115 feet wide and 61 feet deep; it has a basement and two stories, is heated by steam, and is fireproof.

It is occupied by the divisions of Chemistry, Entomology, Plant Pathology and Physiology of the Experiment Station.

RESEARCH ADMINISTRATION BUILDING.

This building, erected in 1918, is occupied by the Administration and Research Divisions of the Experiment Station. It is modern and fireproof, and is one of the most complete research laboratories devoted to Experimental Station work in the country. Offices are conveniently arranged for the Director and his staff, with a conference room adjoining. Other well arranged offices are provided for the heads of the various divisions and their assistants. A large room is given to the needs of a library. The various laboratories are equipped with electricity, gas, air, steam, and water for experimental purposes; and in connection with each is a large fireproof vault for storage of valuable data. Non-vibrating balance tables are provided in the laboratories. The basement provides ample space for the storage of supplies and materials. Above the basement there are three stories; a freight elevator runs from basement to top floor.

GATHRIGHT HALL.

This building was erected in 1876, and is named in honor of Thomas L. Gathright, the first President of the College. It is used temporarily for offices for the Extension Service, and for other purposes.

Dormitories.

All the dormitories are screened.

PFEUFFER HALL.

This is a dormitory, erected in 1887, and contains twenty-five rooms. It is named in honor of George Pfeuffer, a former President of the Board of Directors.

AUSTIN HALL.

This is a dormitory, erected in 1888, and contains twenty-five rooms. It is named in honor of Stephen F. Austin.

ROSS HALL.

This is a dormitory, erected in 1892, three stories high, with forty-one rooms with running water in each. It is named in honor of former President L. S. Ross.

FOSTER HALL.

This building was erected in 1899, and is named in honor of former President L. L. Foster. It is a dormitory and consists of three separate parts; the central part is four stories high and contains nineteen rooms; the two ends are three stories high and contain eighteen rooms each. There is running water in each room.

GOODWIN HALL.

This dormitory was erected in 1908 and is named in honor of Hon. G. I. Goodwin. It contains eighty-two rooms and is equipped with a steam heating system and modern toilet facilities. There is running water in each room except those on the first floor.

MILNER HALL.

This building was erected in 1911 and is named in honor of former President R. T. Milner. It is a dormitory containing one hundred and two rooms. The building is four stories high; there are no connecting stairways between the several floors, but each story has separate entrances so as to divide the building into four distinct parts, without interfering with the ventilation in any part of the building. Each story has four shower baths and ample toilet facilities. Every room is provided with water, electric light, and hot water heat.

The building is constructed of reinforced concrete and brick, and is practically fireproof.

LEGETT HALL.

This building was erected in 1911, and is named in honor of K. K. Legett, a former President of the Board of Directors. It is in every respect a duplicate of Milner Hall.

HARVEY MITCHELL HALL.

This building was erected in 1912, and is named in honor of a former citizen of Bryan who was largely instrumental in having the College located in Brazos County.

It is a dormitory, having a basement and three stories, and contains eighty-six rooms, each one having an outside exposure. Each story has shower baths and ample toilet facil-

ities. Every room is provided with water, electric light, and hot water heat.

The building is constructed of reinforced concrete and brick, and is practically fireproof.

BIZZELL HALL.

This is a modern, three-story dormitory, erected in 1918, and is named in honor of President W. B. Bizzell. It is built in two sections: the lower floors being connected by a covered passageway. It contains sixty-six rooms, and ample toilet and bathing facilities on each floor of both sections; every room is provided with running water, electric light and steam heat.

The building is of concrete and brick, and is practically fireproof.

SEWERAGE SYSTEM.

The College is provided with a system of sewers, to which are connectd the various dormitories, the academic building, the agricultural and horitcultural halls, the steam plant, the hospital, the mess hall, and the residences. The outfall of the system is three-fourths of a mile from the nearest College building and nine-tenths of a mile from the nearest recitation hall or dormitory.

GROUNDS AND GARDEN.

The garden, orchard, barnyards and campus are included in the enclosure to the east of the railroad stations. The campus consists of some twenty-five acres of lawn, shrubbery and flowers.

The orchard, vineyard, nursery and garden are located north and east of the academic building.

FARM.

The farm proper comprises about three hundred and fifty acres, and has the necessary barns, silos and outhouses. The pastures contain about one thousand acres, and furnish grazing for the College herds.

EQUIPMENT.

AGRICULTURAL ENGINEERING.

The Agricultural Engineering Department has special laboratories for each of the following subjects: Farm machinery, farm motors, automobiles and tractors, and concrete construction. In addition to this there is a drawing room for use of classes in farm buildings, irrigation and drainage. A hundred-acre farm is provided for practical work in the various subjects.

The farm machinery laboratory is housed in a building 140 x 40 feet, with two floors which are entirely taken up

with up-to-date farm machinery, such as should be used on Texas farms. The machinery consists of different makes of plows, harrows, planters, cultivators, harvesters, seed cleaners and grinders

The farm motor laboratory contains twenty-five farm gas engines, and two farm electric light plants, together with all apparatus necessary for testing same, and a supply of extra magnetos and carburetors.

The automobile and tractor laboratory contains thirty-four, six, eight, and twelve cylinder motors, six automobile, two trucks, a number of chassis, twelve tractors, soldering and babbitting room, acetylene welding outfit, special ignition apparatus, storage battery charging and repair outfit, and a number of surplus magnetos and carburetors.

The concrete construction laboratory is equipped with cement and aggregate testing apparatus, together with molds and forms for making such simple concrete structures as are found on the farm.

Equipment for special field work in terracing, drainage and irrigation has been provided.

AGRONOMY.

The Agronomy Department has two well equipped laboratories. One is used for instructional purposes in soils, and the other for instructional purposes in farm crops.

The soils laboratory is equipped with the improved apparatus necessary for laboratory instruction in all phases of soil fertility work, including a centrifuge, shaking machine, Briggs filter, electric air pump, torsion balances, chemical balances, drying ovens, hot plates, compound microscopes, evaporimeters, soil capillary tubes, soil samplers and all of the smaller equipment and chemicals for a modern soils laboratory.

For soil survey instruction, the department has five plane tables equipped with alidades; also other miscellaneous equipment for this work.

The farm crops laboratory is equipped with a Brown-Duval moisture tester, standard seed testers, grain sampling tubes, compound microscopes, dissecting sets, hand lens, torsion balances, insect-proof and rat-proof grain bins, and much miscellaneous equipment. Type samples and specimens of all the important grains, and grain and forage crops, are kept in stock for study.

The department has a modern greenhouse 67x25 feet, equipped for soil fertility, farm crops and plant-breeding work. For field study the department has 35 acres of land devoted to demonstration and experimental work in crops and soils. All of the important types and varieties of farm crops adapted to this section are grown for field study.

The department maintains a rather complete technical library, in which will be found practically all of the standard works and journals pertaining to agronomy, as well as the Experiment Station bulletins and reports.

ANIMAL HUSBANDRY.

The Animal Husbandry Department is equipped with the following breeds of live stock: Standard Bred, Thoroughbred, Morgan, and Percheron breeds of horses; Shorthorn, Hereford, and Aberdeen-Angus breeds of cattle; Shropshire, Hampshire, Southdown, and Rambouillet breeds of sheep; and Duroc-Jersey, Poland-China, Berkshire, and Tamworth breeds of hogs. These breeds are represented by registered breeding animals in the case of horses, and by both registered breeding animals and market animals—steers, wethers, and barrows—in the case of cattle, sheep, and hogs, respectively.

The department is provided with a fireproof building for class work. This building contains offices, lecture rooms, a meat room, box stalls, a students' dressing room with shower baths adjoining, and an arena 60 x 160 feet for live stock judging.

On the Animal Husbandry farm there are four barns, viz., a horse barn, a beef cattle barn, a sheep barn, and a hog barn. The land on which the hogs and sheep are kept is divided into small fields and pastures, thus permitting forage crops and pasturage rotation for these animals.

ARCHITECTURE AND ARCHITECTURAL ENGINEERING.

The department has a number of signed drawings and color renderings, an ample library of valuable books, several thousand plates in ring books, a lantern and slides, and a number of well chosen casts—to all of which additions constantly are being made. Students of architecture have, of course, access to the equipment of other departments in which they are taking work.

BIOLOGY.

The department in its various branches is thoroughly equipped with apparatus for lecture room and for laboratory use. There are six laboratories—one zoological, three botanical, one bacteriological and one reasearch. All are amply provided with tables and other general apparatus.

For the use of elementary classes, the department is provided with 45 standard 2-power microscopes, with their usual accessories; charts and models of plants and animals; a fairly good collection of prepared specimens, and a herbarium of about 3000 mounted plants. A small greenhouse has lately been acquired. For experimental work and demonstration in the class room, there is an excellent equipment of instruments of precision, largely of French and German make. For the

use of more advanced workers there are 10 high-power microscopes of the best makes; 3 Leitz binocular dissecting microscopes; Reickert and Minot microtomes; imbedding ovens; a large and a small incubator; two steam sterilizers; analytical balances; and a full equipment of glassware, chemicals, stains and similar materials.

The library contains about 250 books of reference and several thousand separates, bulletins and special papers. The leading journals of botany, zoology, bacteriology, and mycology are also available to the student.

CHEMISTRY AND CHEMICAL ENGINEERING.

The department has the usual laboratory facilities, including a vacuum system for rapid filtration, a compressed-air system for use with blast lamps, and a ventilating system. The laboratories are supplied with hydrant, cistern and distilled water. Each student is assigned to a lock-desk containing the necessary equipment. The large lecture room, with raised seats, has a seating capacity of one hundred and thirty. The museum occupies a large, well lighted room.

There is a separate room for technical analysis and one for advanced industrial chemistry. The latter is not yet fully equipped. The former is provided with vacuum and compressed-air systems, colorimeters, calorimeters, refractometers. Lovibond tintometer, combustion furnaces, gas burettes, and other special apparatus used in technical analysis. The laboratory has the usual equipment for work in physical chemistry.

The department has a good reference library.

The division of Geology of the department of Chemical Engineering has been presented with a very valuable collection of minerals and rocks by Mr. F. W. Steber of Dallas, which will form a nucleus around which a representative geological museum of Texas rocks and mineral products will be built. This collection consists of many of the rarer rock-forming minerals, as well as a representative collection of the more important ores, especially Texas ores. The rock specimens include a great variety of igneous and metamorphic rocks thin sections for microscopic examination, and a number of typical sedimentary rocks.

CIVIL ENGINEERING.

The equipment in this department is excellent and sufficient in quantity to meet the needs of the classes at the present time, and additions are being made to it each year.

For the field work, the equipment consists of a well-assorted lot of transits and engineers' levels for general work; also for more precise work in city surveying and leveling and for simple triangulation. Also surveyors' compasses, terracing

levels, plane tables, aneroid barometers, range poles, rods, chains, chain tapes, metallic tapes, surveyors' pins, axes, etc. For the drafting room and other office work there are drawing tables, reckoning machines, two universal drafting machines, planimeters, slide rules, calculating instruments, protractors for general and special use, and a sufficient supply of T-squares etc.

In the general testing laboratory there is one machine of 100,000, one of 50,000 and one of 20,000 pounds capacity, a 50,000 inch-pounds torsion machine, and a rattler for testing paving brick. With the exception of the 20,000-pound machine these are all power-driven.

The hydraulic laboratory contains weirs, pressure gauges, hook gauges, water meters, measuring tanks, impulse wheels, hydraulic ram, centrifugal pumps, pitot tubes, current meters, nozzles, and other apparatus for hydraulic measurements. The centrifugal pumps are connected to a pressure tank in order that they may be forced to pump against various heads.

In the cement laboratory are moulds for shaping test specimens, cement testing machines, sieves for testing the fineness of cement and sand, Vicat and Gillmore's needles for testing time of setting, damp closet, balances, pans and other appliances used in testing the qualities of cements.

The road materials testing laboratory is completely equipped with the most modern machines for testing non-bituminous road materials. This equipment includes a diamond core drill, diamond saw, grinding lap, Dorry hardness machine, Page impact machine for toughness test, Deval abrasion machine, ball mill, cementing-value briquette-forming machine, cementing-value impact testing machine, brick rattler, stone and sand sieves, sieve agitator, balances and other miscellaneous equipment.

There is also an exceptionally well equipped laboratory for the study of bituminous pavements and paving materials, which laboratory affords a means of instruction in the present day methods of constructing bituminous roads and in the study of materials used for this purpose. It also offers opportunities for co-operative work with the cities and towns of Texas in the investigation of their pavements and available paving materials.

A road exhibit room is also maintained for the benefit of students and visitors. In this room are shown models of road sections and surfaces made of various materials available in Texas. Samples of gravel, rock, asphalt, and road soils, together with photographs, charts and maps of road work in the State complete the exhibit.

The department library and reading room contain engin-

eering books, periodicals, blue prints, photographs, etc., and are kept for the use of students during the session.

DAIRY HUSBANDRY.

This department is thoroughly equipped to educate and train young men along the lines of feeding, breeding, care and management of dairy cattle; the handling of milk and the manufacture of dairy products.

The department controls a complete dairy farm of 593 acres of land, the operations of which are devoted to the growing of feed crops, and the preparation and maintenance of permanent pastures for the dairy herd. Two hundred and twenty-five acres under cultivation, the remainder being devoted to pasturage.

All modern machinery is used by this department, including breaking plows, cultivators, and harvesting machinery.

The herd consists of 170 animals, including cows, calves, and bulls, of which there are 80 pure bred Jerseys, 43 pure bred Holsteins, and 13 pure bred Ayreshires. The milking herd usually includes about 80 cows, which are housed in a modern dairy barn constructed of tile and concrete, and furnished completely with modern barn equipment.

The creamery and laboratory occupy the entire south end of the ground floor of the Agriculture Building. The creamery is operated on a commercial basis, and all equipment and machinery necessary for the manufacture of butter and ice cream is available, including a modern six-ton York refrigeration unit.

The laboratory includes such equipment as glassware, Babcock testers, centrifuges, separators and other necessary equipment for the proper testing of milk and its products.

DRAWING.

This department is located on the fourth floor of the Academic Building. It occupies four large drawing rooms, two recitation rooms, offices, etc., all of which are especially well ventilated, heated and lighted.

The department is fully equipped with necessary furniture, models, plaster casts, life-size statues, etc.

For illustrative purposes there is in use in the department all modern apparatus for the draftsman, such as electric blue printing machine, universal drafting machine, pantograph, ellipsograph, etc.

A reference library of the best works on drafting, illustrating, etc., is kept in the department for the convenience and use of students.

ELECTRICAL ENGINEERING.

The electrical engineering laboratories comprise three electrical machinery laboratories, two measurements labora-

tories, a standardizing laboratory, a photometric laboratory, a storage battery room, a storage battery repair room, a communication laboratory for telephone, telegraph and radio work, a work shop, two rooms for building and repairing electrical machinery, and an instrument room.

The electrical laboratories are supplied with 2300 volt, three-phase, 60-cycle power from the College power station. Alternating current at 110 and 220 volts is obtained through transformers. Direct current is supplied by two motor-generator sets located in the machinery laboratory. The smaller set consists of a 2300-volt, 50-horse power induction motor direct connected to a 35 kw., 125-volt, compound wound direct current generator. The larger set consists of a 2300-volt, 100-horse power synchronous motor direct connected to two 35 kw., 250-volt, Dobrowolsky, three-wire direct current generators, so arranged that they may be operated independently or connected in series for obtaining 500 volts. A 3-panel switchboard controls the above equipment and the feeders to the 6-panel switchboard used for the distribution of power within the machinery laboratories and to the switchboards located in the other laboratories. Throughout all laboratories the distribution of power is controlled by a plug-and-socket system thus securing absolute flexibility.

The storage battery room contains a 110-cell Edison storage battery, with a mercury arc rectifier for charging. The batteries are connected through suitable control to the main distributing board.

The equipment of the machinery laboratories is as follows: Two street car motors mounted on a single shaft with prony brake attachment, and equipped with both a hand controller and a master controller operating an electro-pneumatic system; one 250-volt and one 500-volt direct current motor; one 5-horse power, 110-volt, direct current series motor with interpoles; one $1\frac{1}{2}$ horse power shunt generator; three 6 kw. compound wound machines; three 4 kw. compound wound machines; one 5 kw. direct current machine with four slip rings; four 5 kw. compound wound direct current generators with interpoles; four $7\frac{1}{2}$ horse power compound wound motors with interpoles; one $7\frac{1}{2}$ horse power Reliance variable speed motor; one 20-horse power and one $12\frac{1}{2}$ -horse power direct current motor; one $12\frac{1}{2}$ kw., three-wire generator; one compensator variable-speed direct current motor; two 30 K.V.A. and two $7\frac{1}{2}$ K.V.A. alternators; two 10 K.V.A. three-phase alternators with six slip rings; one 20 K.V.A. six-ring converter; one 8 K.V.A. converter; one 8 K.V.A. split-pole converter; one 10 K.V.A. three-phase generator driven by a set of two 10-horse power, three-phase induction motors, arranged for cascade operation; four motor generator sets, consisting

of a direct current motor and a 3 K.V.A. alternator with six rings for single-phase, two or three-phase; a number of single-phase and polyphase induction motors. There are a number of constant voltage transformers, a constant current transformer, and several types of automatic motor starters.

The high tension laboratory contains a 100 K.V.A. 200,000-volt transformer, with regulators for varying the voltage, a 125 cm. spark gap, a crest voltmeter with a number of auxiliary devices.

The electrical measurements laboratory has a full equipment of the apparatus needed for the study of the fundamentals of electrical measurements. The equipment includes the following: Various types of Wheatstone bridges; a Kelvin double bridge; a Cary-Foster bridge; magnetometers, dynamometers; portable, semi-portable and wall galvanometers; astatic galvanometers; universal tangent galvanometer; calorimeters; sechometer; influence machine; electro-static apparatus; spark coils; apparatus for testing magnetic qualities of iron and steel; standard resistances; standard cells, physical balances; universal shunts; resistance boxes; variable inductances and capacities; portable storage batteries, and various minor equipment.

The standardizing room is equipped with a Leeds and Northup potentiometer and its accessories; Weston standard laboratory voltmeter, and milli-voltmeter with shunts; a Kelvin balance; Westinghouse precision ammeter, voltmeter, and wattmeter; and standard resistances and standard cells. In this room there are also a three-vibrator oscillograph with photographic attachment, and a motor generator set consisting of direct current motor direct connected to a set of four alternators giving a fundamental wave, and the third, fifth and seventh harmonies, so arranged that any desired phase relation may be obtained between each of the harmonies and the fundamental.

The photometric laboratory has two dark rooms for photometric work proper. The equipment includes a station photometer; two illumination photometers; a Sharp-Miller photometer; a Flicker photometer; an integrating photometer consisting of a Ulbricht sphere two meters in diameter, with accessories, especially adapted for arc light photometry; rotating apparatus; a number of incandescent lamp candle power standards; and a collection of various arc lamps, and a number of units representing various indirect and semi-indirect lighting systems. There is also a room for the demonstration and comparison of various light sources and systems.

The communication laboratory is equipped with central energy and magneto telephone switchboards, an automatic

switchboard, and numerous types of telephones and parts; simple and duplex telegraph sets; radio telegraph and telephone instruments of various kinds; wave meters and decremeters, coils, condensers, tubes, etc., for building radio circuits. The department also maintains a complete radio station capable of communicating distances of 500 to 600 miles by radio telephone and distances of 1500 miles by radio telegraph. This equipment is available for study from both engineering and an operating standpoint.

Through the generosity of the Otis Elevator Company, a complete motor-driven elevator winding-engine equipment of the most modern type, complete with all automatic switches, regulators, controllers, etc., has been donated and installed in the laboratory for test and demonstration purposes.

The department also has a number of frames of dynamos and motors and cores of transformers that are used by the students in learning to wind and repair these machines.

The equipment for the students in electrical engineering is augmented by the fact that the direct connected generators in the powerhouse, their exciters and measuring instruments, and the motors used to operate the Textile School, machine shop, and other laboratories are available for tests as practical operating plants after the students have performed the required experiments on the machines located in the laboratory.

Students are urged to read the literature pertaining to their work, and for this purpose the department library is available. A reading table is maintained, on which are kept the current copies of a number of technical magazines. The technical books in the general library are also available to the students.

ENTOMOLOGY.

The department of Entomology maintains two laboratories, one of which is equipped with dissecting and compound microscopes, and the other with compound microscopes. In addition, the department maintains an insecticide laboratory equipped with the more important insecticides and spray machines, powder guns, etc.

The department has several insect models illustrating the anatomy of the more common insects, together with a series of charts illustrating the life histories of insects. This equipment is supplemented by a balopticon and several hundred lantern slides illustrating the anatomy and life history of the most important insects.

The equipment in Apiculture consists of a bee house and workshop containing honey extractors, wax presses, wiring devices and different makes of bee hives. In addition to this, the department has a small apiary, where the student can familiarize himself with the practical operations of bee-keeping.

For life history work, the department has an Insectory equipped with breeding cages, a hydrothermograph, and all necessary equipment for working out the life histories of insects.

A library is maintained, which comprises two hundred and eighty volumes of technical books on Entomology. This library contains full sets of the Transactions of the American Entomological Society, Genera Insectorum, Journal of the New York Entomological Society, Entomological News, The Canadian Entomologist, and Psyche.

In addition, a reading table is maintained, on which are kept the recent publications on economic entomology and apiculture.

HORTICULTURE.

The class-room work in horticulture is considerably strengthened by practical exercises in orchards, gardens, and laboratory.

There are now growing on the horticultural grounds orchards containing the standard varieties of peaches, pears, plums, pecans, persimmons, grapes, figs, blackberries and dewberries.

In addition to the commercial gardens, where vegetables are grown for use at the Mess Hall, there is a plat of ground that has been set aside on which a great variety of vegetables are grown under the direct supervision of the student.

There is maintained, in co-operation with the American Rose Society, a rose garden, which, when completed, will contain about eight hundred varieties. There is also to be found on the horticultural grounds a rather complete collection of ornamentals.

The department has a very complete line of spraying machinery, in which are to be found several makes of bucket, knapsack, barrel, and power sprayers.

The collection of lantern slides owned by the department, which are used for illustrating different subjects, especially those in landscape art, is growing rapidly, there being now over nine hundred.

For work in plant propagation, in forcing early vegetables and in plant breeding, the students have the use of one of the finest greenhouses to be found in the Southwest.

FARM MANAGEMENT.

The department possesses detailed financial records of the business of many farms located in various parts of Texas and other States.

Files of the Crop Reporter, Market Reporter, Bureau of Labor Price Reports, U. S. Census, and many reports of

Farm Management investigations, are contained in the Department Library.

Adding and calculating machines, and slide rules, are available for students working on special problems.

MECHANICAL ENGINEERING.

In the carpenter shop are excellent double work benches of special design, equipped with quick-acting vices, and the saws, planes, chisels, etc., ordinarily found in a carpenter's kit, each student having a set of edge tools assigned to him alone. Supplementing these are a number of special tools in the tool room.

The pattern shop equipment consists of twenty pattern maker's benches, each equipped with vises, drawers, lockers, and outfit of hand tools; and in addition there is an assortment of special tools in the tool room, as well as a large number of small turning lathes, two large pattern maker's lathes, circular saw, band saw, gig saw, surface planer, jointer.

The foundry is equipped with one dozen bench moulding stands, with all necessary shovels, riddles and small tools, a number of floor molding kits, flasks of all kinds, a core machine, a core oven, a squeezer, a Cooms gyratory riddle, a brass furnace with all necessary accessories, a No. 1 Whiting cupola with electric-driven blower for blast, and a Clark blast meter for measuring the amount of air supplied. The other accessories for this cupola are also included in the equipment.

A very complete set of hand and bench tools constitute the equipment of the sheet metal workshop.

The forge room equipment consists of one 250-pound steam hammer, emery wheels, forty new forges, all having power blast and exhaust, and a number of hand forges, the necessary anvils, tongs, and other small tools usually found in a forge shop. Besides oil and water baths, the equipment includes a pyroscope for observing the temperature of metals.

In the machine shop the equipment is now very satisfactory. It consists of a full line of lathes, grinders, milling machines, automatic machines. The equipment has been recently increased by the addition of a long lathe with extra-size hollow spindle for work on shafting, and five other lathes of most up-to-date design. Another line of the lathes is a most approved type of motor-driven, geared-head precision machine, and is typical of the best of its kind. The automatic machine is one of the most highly specialized machines for the rapid production of duplicate small parts. The tool room contains a large assortment of taps, dies, drills, reamers, chucks, and other machine accessories, as well as the small tools for laying out work and accurately and prop-

erly measuring the same; calipers, micrometers, steel scales, punches, surface plates. Electric portable drills and grinder are also included in the equipment.

The engineering laboratory contains steam engines, gasoline engines, steam turbines, steam and power pumps, fans, water motors, a hot-air engine, condensers, air pump, injectors, and a full line of indicators, gauges, pyrometers, thermometers, tachometers, speed indicators, weirs, pitot tubes, prony brakes, platform scales, etc., for conducting tests as outlined in course 403. A register-indicator-record venturimeter has been installed for use in connection with boiler feed measurement.

In addition, the laboratory has the use of all apparatus of the power plant, consisting of simple and compound engines, pumps of several different kinds; also the boilers of well known makes and different types. The equipment of the steam plant makes available larger engines, condensers, air compressors, air lift pumps, etc., for instruction purposes.

For the class-room instruction there are numerous full-size wooden and metal models of different kinds of engines, also sections of of actual air-brake equipment and other appliances and fittings for railway and power plant equipment.

Besides the above mentioned equipment, might be mentioned the fact that manufacturers have in some instances deposited or donated for the use of the department a number of standard appliances, which prove valuable to the student.

MILITARY SCIENCE AND TACTICS.

The department has full equipment for Infantry, Field Artillery, Signal Corps, Cavalry, and Air Service, as follows:

Infantry.—The infantry is equipped with every piece of equipment that a regular army regiment of the United States Army has. This includes rifles, pistols, machine guns, automatic rifles, one-pounder guns, trench mortars, hand and rifle grenades, gallery rifles, infantry packs, ammunition for all arms, and field engineering tools. Besides these arms and equipment, the infantry has facilities at hand to use all of its equipment, including an indoor gallery range and a 1000-yard outdoor rifle range.

Field Artillery.—One 3-inch battery complete, consisting of four 3-inch guns, 8 caissons, 10 limbers, 2 battery and store wagons, 2 store limbers, battery reel cart, 90 horses, 4 mules, harness and saddle equipment for all horses, and all accessories, spare parts and tools; also included in the equipment are

one 4.7-inch rifle with limber and caisson, one 155 mm. Howitzer with limber and caisson, one 155 mm. rifle with limber and caisson, and one each of the American, British and French 75 mm. guns with limbers and caissons; one ordnance repair truck, complete; four motorcycles with side cars; two 5-ton caterpillar tractors; 2 F.W.D. ammunition trucks, one White reconnoissance car. The artillery equipment also includes four Browning machine guns, four automatic rifles and a complete supply of fire control instruments, such as B. C. telescopes, range finders, aiming circles, trench periscopes, prismatic compasses, sitogoniometers, and an assorted supply of smaller instruments, including drawing instruments, slide rules for field artillery computations, compasses and stop watches.

Cavalry.—Sixty sets of cavalry equipment, consisting of saddle, saddle blanket, bridle, saddle bags, rifle scabbard, lariats, picket pins, sabres, sabre scabbard, feed bags, grain bag, halter, and halter tie rope. Two pack outfits complete, consisting of aparejo, corona, manta, layer sling and lash ropes; 60 cavalry horses; 2 pack mules; 4 draft mules; 1 wagon escort; harness.

Air Service.—One airplane and accessories; 1 Liberty motor, complete; 1 Wright motor (Hispano-Suza), complete; 1 rotary motor, complete; tools for overhauling motors and repair of airplanes; machine guns, aerial; 3 types; aerial machine gun sights bombing sights; dummy drop bombs; radio sets, ground and airplane; airplane instruments; airplane propellers, airplane radiators, magnetos, carburetors.

Signal Corps.—Radio telephones; radio telegraph; damped and undamped military telephones; automatic telephones and switch board; storage batteries and charging plant for automatic telephones; service buzzers; buzzer-phones; T. P. S. (telegraphic par sol) ground radio; Kellogg cross section open commercial switchboard; commercial telegraph sets; printing machine; repeaters; horse-drawn wire carts; motorcycles; trucks; tools and equipment for instruction in cable splicing; heliograph, flags, projectors; mechanical tools of all kinds for repairing technical equipment; literature and books for conducting technical courses in Signal Corps work.

PHYSICS.

The main lecture room of the Physics Building has a seating capacity of 250. It is equipped with amphitheater seats, motor-driven blinds for darkening the room, and with a large lecture table provided with gas, water, and an electrical

switchboard. The blinds and lights of the room are controlled from the switchboard.

A smaller lecture room, having a seating capacity of 50, contains a lecture table equipped with water, gas, and a switchboard. Both of these lecture rooms are in direct communication with the preparation room.

The apparatus room of the first floor is equipped with a five-panel switchboard supplied with 110 and 220-volt, alternating current from the College power system, and with 110 and 220-volt, direct current from a 20 kw. motor-generator in the basement. By a plug-and-socket system either alternating or direct current can be distributed by individual lines to any part of the laboratories and to the lecture rooms.

One of the two laboratories of the first floor contains sixteen tables, each supplied with water, sink and gas. It contains also tables for sensitive balances. The other laboratory, designed for electrical measurements, is provided with numerous well distributed outlets for separate electrical lines to the switchboard.

The shop, also on the first floor, is equipped with a motor-driven planer, rip saw and drill press; stock material and the usual metal and wood-working tools.

The basement consists of one general laboratory, ten smaller laboratories for special work, and equipment room for the motor-generator, a storage battery room, a general store room, and a storeroom for chemicals.

In the two larger laboratories are fourteen tables mounted on masonry piers which are free from the floor. These tables may be used either for general practice or for special work. Each table is supplied with gas and a separate electrical line to the switchboard.

Two of the smaller laboratories are black and suitable for photometric work. Another 40'x20' is suitable for general experiments in light.

The department is supplied with apparatus for the demonstration and laboratory practice in mechanics, heat, light, meteorology, sound, electrostatics and current electricity in such courses in general physics as are usually taught to engineering and agricultural students.

TEXTILE ENGINEERING.

For yarn manufacture there is ample equipment necessary to produce carded or combed yarns, and with it machinery for making chain or slashed warps of either single or double yarns.

In the weaving room there are fourteen Northrop looms which are entirely automatic, and two plain looms for ordinary plain goods. There are two ordinary dobby looms with box motion to insert four colors for filling; one dobby

loom for weaving terry towels; one dress goods loom, with dobby and boxes for making a seven-colored pattern; one loom for weaving narrow Jacquard dress goods, and one with Jacquard loom for weaving table covers.

The finishing machinery is for ordinary ducks, sheetings or drills, and consists of an inspecting machine, railway sewing and rolling machine.

VOCATIONAL TEACHING.

The Department of Vocational Teaching is located on the third floor of the Academic Building. One large section room has been converted into a model laboratory. It has been selected and equipped to serve as an example of a good type for high school agricultural departments. One end of the room is provided with stationary tablet chairs, the other end with movable tables and chairs. Two oak cabinets with sliding glass doors contain all the equipment needed for the laboratory work of a high school. These cabinets were designed in the department and are ideal for high school work. Other cabinets contain commercial exhibits, bulletins, and samples of threshed grains. A carpenter's tool box contains a model set of tools for farm use. Two large rat-proof boxes are filled with head samples of grains. A projection lantern cabinet occupies a convenient place in the room. Charts and farm and garden tools are displayed on the walls. Blackboard space, lighting, blinds, picture screen, and every detail of the laboratory serve as an exhibit of what the high school should have.

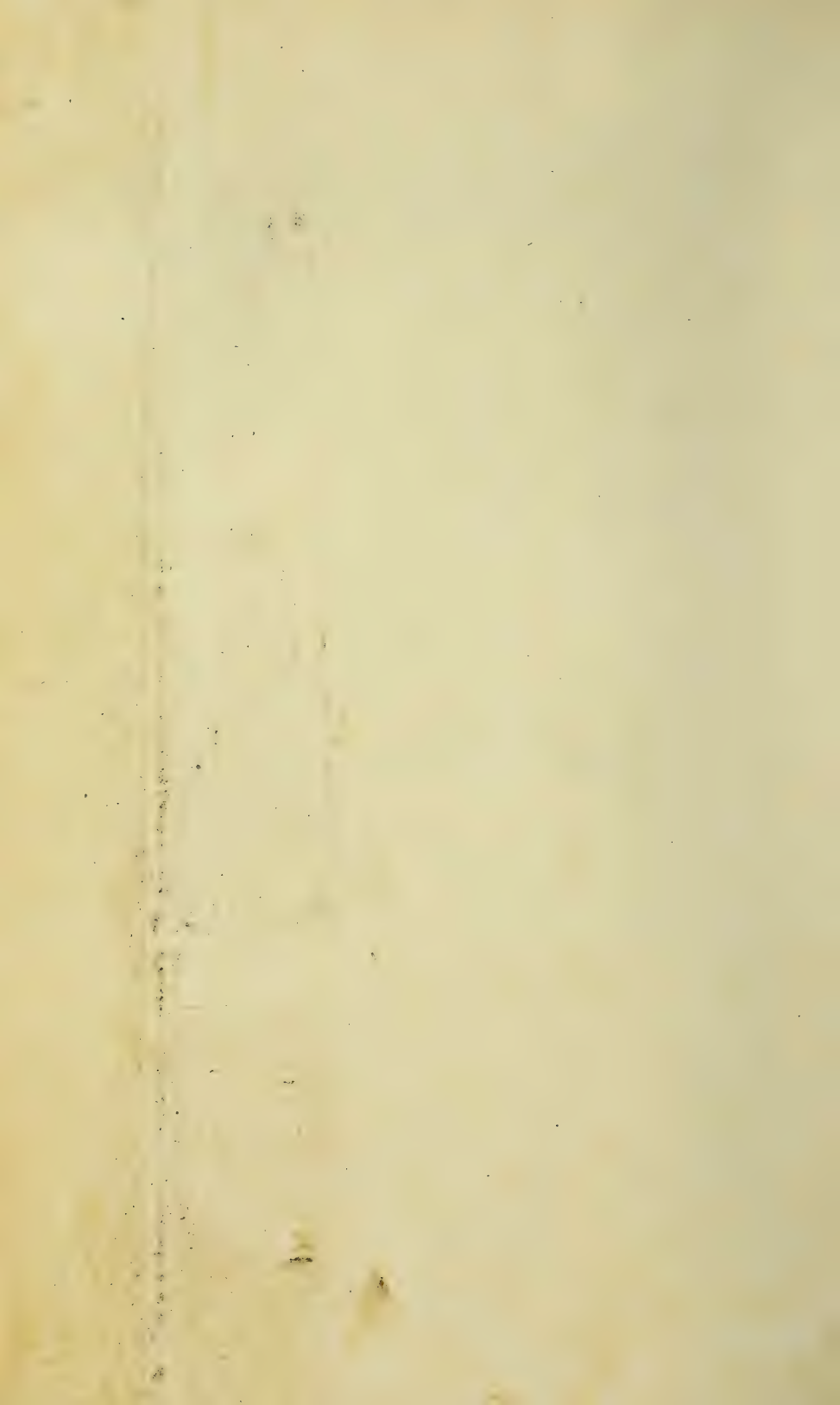
A second room contains the visual instruction material. Three cabinets are placed around the wall with space for two hundred and thirty-two sets of lantern slides. Another cabinet contains the cartons of the package library, together with a large collection of illustrative catalogues. Some of the equipment found here are the mimeograph, mimeoscope, charting board, photographic reducing and enlarging apparatus, motion picture rewind, projection and motion picture machines and cabinet of lantern slides. A large photographic dark room is set aside in the basement for developing plates and films and for printing and enlarging pictures. It is equipped with electric light, running water, trays, chemicals, amateur printer, electric fan and washing and drying apparatus.

The offices contain the department library of books and bulletins. The newest and best books on vocational education are added from time to time. About twelve thousand bulletins are carefully catalogued and classified for ready reference.

The most valuable equipment of all consists of a rural consolidated school, located conveniently on the Campus, to which the pupils are transported in improved motor busses.

and a community in which can be found all the problems of a teacher of vocational agriculture. Students get by observation and participation real experience in class-room and community work.

PART III
ADMISSION, EXPENSES



GENERAL REQUIREMENTS FOR ADMISSION.

Requests for entrance blanks, and all communications in regard to admission should be addressed to The Registrar, Agricultural and Mechanical College of Texas, College Station, Texas.

Age, Health, Character.—The applicant for admission must be at least sixteen years old and physically able to perform the duties of a cadet. He must be free from contagious or infectious disease. If he comes from another college, he must present a certificate of honorable dismissal.

Vaccination.—The applicant for admission must present a certificate signed by a physician, in one of the forms given below:

1. _____, Texas, _____, 192____
This is to certify that _____ has had smallpox.
(Signed) _____, M. D.
2. _____, Texas, _____, 192____
This is to certify that _____ has been success-
fully vaccinated at two different times, the dates being _____
(Signed) _____, M. D.
3. _____, Texas, _____, 192____
This is to certify that _____ has been success-
fully vaccinated within the last five years.
(Signed) _____, M. D.
4. _____, Texas, _____, 192____
This is to certify that I have today vaccinated _____
(Signed) _____, M. D.

SCHOLARSHIP REQUIREMENTS FOR ADMISSION TO THE FOUR-YEAR COURSES.

Applicants for admission to the Freshman Class who satisfy the General Requirements noted above, may enter: (a) by *certificate of graduation* from an accredited secondary school; (b) by passing examinations in the entrance subjects; (c) by State teacher's certificate (in part); or (d) by individual approval. See Methods of Admission below. The scholarship requirements for admission are expressed in terms of units, a unit representing a course of study pursued five hours a week for an academic year in an accredited secondary school, constituting approximately a quarter of a full year's work.

NUMBER OF UNITS REQUIRED.

Full Admission.—For full admission to the Freshman Class the applicant must present fifteen approved units of secondary school credit, obtained by one or more of the methods

indicated above, of which the six units in List A, below, are prescribed. The remaining nine units must be offered from the subjects included in List B.

Conditional Admission.—The applicant who presents the six units in List A and approved units from List B sufficient to make a total of at least thirteen units, obtained by one or more of the methods indicated above, may be admitted to conditioned Freshman standing, provided the authorities of the College are satisfied from the evidence presented that the applicant is fully qualified to carry the work of the Freshman year in a creditable manner. Conditions must be removed within two years after admission, either by passing entrance examinations in subjects not originally presented for admission, or by extra work in the College. In removing conditions by college work a course carrying three term hours credit per week for one year will count as the equivalent of one unit.

Subjects and Units Accepted for Admission.

LIST A. PRESCRIBED UNITS.

| | |
|----------------------|---------|
| English | 3 units |
| Algebra | 2 units |
| Plane Geometry | 1 unit |

LIST B. ELECTIVE UNITS.

| | |
|--------------------------|--------------------|
| English (4th unit) | 1 unit |
| Mathematics: | |
| Solid Geometry | $\frac{1}{2}$ unit |
| Trigonometry | $\frac{1}{2}$ unit |
| Advanced Arithmetic..... | $\frac{1}{2}$ unit |

History and Civics:

| | |
|-------------------------|-------------------------|
| Ancient History | 1 unit |
| M. and M. History | 1 unit |
| Eng. History | $\frac{1}{2}$ or 1 unit |
| Amer. History | $\frac{1}{2}$ or 1 unit |
| Civics | $\frac{1}{2}$ or 1 unit |
| Sociology | $\frac{1}{2}$ unit |
| Economics | $\frac{1}{2}$ unit |
| Psychology | $\frac{1}{2}$ unit |

Foreign Languages:

| | |
|---------------|--------------|
| Latin | 2 to 4 units |
| French | 2 to 4 units |
| German | 2 to 4 units |
| Spanish | 2 to 4 units |

Science:

| | |
|-----------------------|-------------------------|
| Biology | 1 unit |
| Botany | 1 unit |
| Chemistry | 1 unit |
| General Science | 1 unit |
| Physics | 1 unit |
| Physiography | $\frac{1}{2}$ unit |
| Physiology | $\frac{1}{2}$ or 1 unit |
| Zoology | 1 unit |

*Vocational Subjects:

| | |
|-----------------------|--------------------------|
| Agriculture | $\frac{1}{2}$ to 4 units |
| Bookkeeping | 1 unit |
| Drawing | $\frac{1}{2}$ to 4 units |
| Com. Arithmetic | $\frac{1}{2}$ unit |
| Com. Law | $\frac{1}{2}$ unit |
| Com. Geography | $\frac{1}{2}$ unit |
| Man. Training | $\frac{1}{2}$ to 4 units |
| Stenography and | |
| Typewriting | 1 or 2 units |
| Music | 1 or 2 units |
| Pub. Speaking | $\frac{1}{2}$ or 1 unit |

Special Requirements.—1. In the School of Engineering students not presenting Solid Geometry for entrance will be required to take that subject as an extra study in the second

*Not more than 4 units of Vocational work will be accepted for admission.

term of the Freshman year. Special classes will be formed for that purpose.

2. In the School of Agriculture, students not presenting Physics for entrance will be required to take that subject as an extra study during the Freshman year.

Freshmen who are required to take an extra study may find it necessary to postpone one of the regular studies of the Freshman year. For this reason prospective students are urged to include Solid Geometry and Physics in their high school course.

METHODS OF ADMISSION TO THE FOUR-YEAR COURSES.

The units required for admission to the Freshman Class may be secured:

- (a) By certificate of graduation from an accredited secondary school.
- (b) By examination.
- (c) By State teacher's certificate (in part).
- (d) By Individual Approval.

(A) *By Certificate of Graduation From an Accredited School.*

Admission to the Freshman Class by certificate will be granted to graduates of accredited secondary schools who present credentials certifying to their age, character, scholarship and graduation, *provided the subjects certified have been approved by the State Department of Education and cover the entrance requirements.* This certificate must give in detail concerning each subject which the applicant has studied in the school, the length of time in weeks, the number of recitations per week, and the grade or mark indicating his proficiency. Blank certificates may be had upon application to the Registrar.

If the number of units to which the certificate entitles the holder is less than the number required for admission, the deficiency must be made up by examination.

In the matter of admission to the Freshman Class by certificate, no credit will be given for work done in an accredited school unless the applicant is a graduate of the school.

It is of the highest importance that the applicant send his certificate, properly filled out, to the Registrar in advance. If this cannot be done, he should bring it with him at the opening of the session. Without the certificate he cannot be admitted, and valuable time will be lost if he has to send for it after reaching College Station.

Accredited Schools.

The list of Accredited Schools prepared by the State Department of Education is official for this College, under the agreement signed by representatives of the Institutions of Higher Learning in Texas, February 8, 1917.

The College will admit also, without examination, such graduates of schools fully accredited by the State universities of other States as comply with the requirements for admission indicated above.

(B) Admission by Examination.

Any or all of the scholarship requirements may be met by passing the entrance examinations.

The Spring entrance examinations are held in May, under the supervision of the State Department of Education. These examinations are conducted in each county by the county superintendents, and the papers are sent to the State Department of Education to be graded. On the basis of these papers uniform Entrance Certificates are issued, which will be accepted for admission to any Texas College, provided the subjects certified cover the entrance requirements of the college to which application for admission is made. Under this system students are allowed to take examinations at the close of each high school year, in the subjects studied during that year, so that at the end of three or four years of high school work they should have from ten to fifteen entrance credits. Further information regarding the Spring entrance examinations may be obtained from the State Department of Education, Austin.

Fall entrance examinations will be held at the College Thursday, Friday and Saturday, September 15, 16 and 17, 1921, under the supervision of the College authorities, and will cover all the subjects required or accepted for admission, as outlined above.

SCHEDULE OF FALL ENTRANCE EXAMINATIONS.

Note: Acceptable laboratory note books must be presented in connection with the examinations in science subjects.

| Hour. | September 15. | September 16. | September 17. |
|-------|------------------------------|-----------------------------|-----------------------------------|
| 8-10 | Algebra, Agriculture. | Plane Geometry, Physiology. | Solid Geometry, Trigonometry. |
| 10-12 | Botany, English. | Physics, Latin. | American History, Book-keeping. |
| 1-3 | Ancient History, Physiology. | M. & M. History, Biology. | English History, General Science. |
| 3-5 | Civics, Chemistry. | French, Adv. Arithmetic. | German, Spanish, Zoology. |

Examinations in other subjects to be arranged.

(C) *Admission by State Teacher's Certificate.*

Applicants holding a *permanent* state teacher's certificate obtained by examination may receive entrance credit not to exceed nine units, depending upon the subjects in which examinations were taken to secure the certificate. The remaining units necessary for full or conditional admission must be made up by passing entrance examinations in other subjects, included in Lists A and B, above.

Applicants holding a *permanent* state teacher's certificate obtained by examination may receive entrance credit not to exceed thirteen units, subject to the conditions that govern the granting of credit to holders of first-grade certificates.

(D) *Admission by Individual Approval.*

An applicant over twenty-one years of age, who has not recently attended school, and who cannot otherwise satisfy the entrance requirements, may be admitted to the Freshman Class without examination, subject to the following regulations:

(1) He must make application on the official entrance blank.

(2) He must furnish evidence that his preparation is substantially equivalent to that required of other applicants, and that he possesses the ability and seriousness of purpose necessary to pursue his studies with profit to himself and to the satisfaction of the College.

(3) He must show, by a test in composition, that he has an adequate command of the English language.

The applicant should forward his credentials to the Registrar in advance of his coming, but in no case will he be admitted without a personal interview.

A student admitted by individual approval will not be considered a candidate for a degree until he has satisfied the entrance requirements. Upon completion of English 103-104 such student will be given credit also for three entrance units in English; upon completion of Mathematics 101-102, 103 and 104 he will be given credit for two entrance units in Algebra and one in plane geometry. For each additional freshman and sophomore subject passed with a grade of B or A, a credit of one entrance unit will be given. At the end of the Sophomore year such additional units as are needed to satisfy the entrance requirements in full must be made up by extra work in the College, or by taking entrance examinations.

ADMISSION TO ADVANCED STANDING.

Admission to advanced standing may be granted under the following conditions:

(1). The applicant must submit a letter of honorable dismissal from the institution last attended.

(2). A certificate of preparatory work, covering the entrance requirements of this College must be presented.

(3). An official transcript of the record of all work done in institutions previously attended must be submitted, together with a marked catalogue showing the courses referred to in the transcript.

On the basis of these credentials credit will be given in this College in so far as the work previously completed is equivalent in character and extent to subjects included in the course of study pursued here. Credits given by transfer are provisional and may be cancelled at any time if the student's work in this College is unsatisfactory.

It is essential that all credentials be forwarded to the Registrar in advance.

College credit for work done in secondary schools will be given only on the basis of examinations at the College, and shall not include work presented in satisfaction of the entrance requirements.

ADMISSION OF SPECIAL STUDENTS.

At the discretion of the Dean of the College, a limited number of young men over twenty-one years of age may be admitted to the College as special students, subject to the following regulations:

1. The applicant must show good reason for not taking a regular course, and must submit satisfactory evidence that he is prepared to profit by the special studies he wishes to pursue.

2. A record of his preparatory work must be submitted on the official entrance blank, and must be accompanied by a statement showing (a) his experience; (b) a plan of study, enumerating the studies he desires to pursue; and (c) the purpose or end expected to be accomplished by his study.

3. In order to be admitted to the work of any department, a special student must secure the consent of the head of the department; and his course of study, as a whole, must be approved by the Dean of the College.

Special students are subject to the rules and regulations governing regular students, and are required to take the prescribed theoretical and practical military training.

A special student who may desire to become a candidate for a degree must satisfy the entrance requirements and obtain the consent of the Dean of the College.

It is the theory of special classification that students should be particularly strong and well prepared to do thorough work in the studies selected. A high standard of scholarship will, therefore, be required of all who are thus classified.

REQUIREMENTS FOR ADMISSION TO THE TWO-YEAR COURSES.

1. The minimum age for admission to a two-year course is 18 years, except in the case of graduates of non-accredited schools, who may be admitted at the age of 16 years.

2. The applicant must present a certificate showing the satisfactory completion of the 10th grade of a classified school, or its equivalent. He must also present satisfactory certificates in regard to health, character and vaccination, as in the case of candidates for admission to the four-year courses. *The completion of one of these two-year courses does not prepare the student for admission to a four-year course.*

3. The two-year courses are not open to candidates who are qualified to enter a four-year course.

REGISTRATION.

Upon arrival at the College, young men intending to enter will report at once to the Commandant's office for full information in regard to registration.

SESSION.

The session begins on the third Wednesday in September, and extends through thirty-seven weeks.

Wednesday and Thursday, September 21 and 22, will be devoted to the registration of students. Recitations will begin Friday, September 23.

EXPENSES.

REGISTRATION FEE.

Every student is required to register when he first enters the College and thereafter at the beginning of each term.

Upon registering for the first time he is charged a registration fee of five dollars. He pays this fee only once unless his connection with the College should later be severed; in that case he must pay the registration fee again in order to re-enter.

LATE REGISTRATION.

All students except those registering for the first time, who do not complete their registration on the days set for that purpose will be charged a fee of five dollars for late registration.

In the case of irregular and special students, registration is not complete until their assignment cards are returned, properly signed, to the Registrar.

EXPENSES FOR THE SESSION.

The fixed charges are:

| | | |
|--|---------|----------|
| Trust fund, payable on entrance----- | \$ 5.00 | |
| Incidental fee, payable on entrance----- | 10.00 | |
| Medical fee, payable on entrance----- | 10.00 | |
| Student Activities fee----- | 15.00 | |
| Maintenance fee, First Term, payable on entrance----- | 130.00 | |
| | | <hr/> |
| | | \$170.00 |
| Maintenance, Second Term, payable Feb. 4. | | 130.00 |
| | | <hr/> |
| | | \$300.00 |

Other necessary expenses are:

| | | |
|--|----------|----------|
| Uniform, payable on entrance, about----- | \$ 78.50 | |
| Books, from \$15 to----- | 25.00 | |
| Laboratory fees, averaging about----- | 10.00 | |
| Fee for delivering baggage----- | 1.00 | |
| | | <hr/> |
| | | \$114.00 |
| | | <hr/> |
| Total----- | | \$415.50 |

For Freshmen in the engineering courses, drawing instruments, about \$15.

The new student will need at entrance approximately \$300.00.

Payment.—Payment should be made by bank exchange, money order, or in cash. Personal checks will not be accepted.

Payment for each term must be made in advance. A student entering during a term will be charged maintenance for the remainder of that term only.

Trust Fund.—The trust fund is to pay for property damaged or destroyed, and will be returned to the parent if there is no charge of this kind against the student, or if he is not otherwise indebted to the College. If charges amounting to fifty per cent. of the trust fund deposit are made against a student during the session, he will be required to make an additional charges covering the total charges made against him.

Incidental Fee.—The incidental fee is used for sundry incidental expenses, such as printed forms, examination books, etc.

Medical Fee.—The medical fee covers the professional services of the College Surgeon and the hospital staff.

Student Activities Fee.—The Student Activities Fee is

for the support of student activities, and by a practically unanimous vote of the student body this fee has been fixed at \$15. This fee is paid at registration along with other fees, but it is not compulsory. A student entering after the Christmas holidays will pay only \$9.25. On payment of this fee a student is entitled to be admitted to all inter-collegiate and inter-scholastic contests held at College Station, to receive a copy of the Longhorn, the college annual, and one annual subscription to the Battalion, the student college publication, throughout the scholastic year.

No Refund.—Incidental, medical, and registration fees will in no case be refunded.

Maintenance Fee.—Maintenance includes board, fuel, laundry, light, room rent, single bedsteads, mattress, tables, washstands, chairs.

Each student is required to keep on hand a supply of bed clothing for single beds, towels, etc.

Laboratory Fees.—The laboratory fees cover in part the cost of materials used by the student in his laboratory work. The total amount of these fees varies according to the classification of the student. The fees for the several courses are listed under "Courses of Instruction by Departments." They are payable within the first ten days of each term.

Uniform Deposit.—The deposit of \$78.50 for uniform is not required of Juniors and Seniors who are not members of the R. O. T. C.

Forfeiture on Withdrawal.—A student once entering for a term, and having paid for that term, or the balance of it, forfeits all claim to said payment in case of voluntary withdrawal from the College before the expiration of said term, *except in case of sickness disqualifying him for the discharge of his duties for the rest of the term. When such sickness takes place at the College, it must be attested by the College Surgeon* before the student can receive the balance of his maintenance fund.

Graduate Students.—The expenses of a graduate student are \$25.00 for registration fee, incidental fee and medical fee, with charge for maintenance as above.

Day Students.—Day students pay \$30.00, to cover registration fee, trust fund, incidental fee, and medical fee as above.

Officers of the College.—Officers of the College tak-

ing courses of instruction pay the registration fee, \$5.00, and the incidental fee, \$10.00.

Deposits.—Deposits may be made with the Fiscal Department. Depositors will draw their money by giving receipt direct to the Fiscal Department as money is required. Deposits and withdrawals must be given in even dollars.

Checks.—A graduated collection fee will be charged on all out of town collections, except Bank Exchange, Postal Money orders and Express Money Orders. Checks or drafts that have been altered in any way will not be accepted.

Unpaid Checks.—If a check or draft accepted by the Fiscal Department for collection is returned unpaid by the bank on which it is drawn, the student presenting it will be required to pay a fine of \$3.00. If this fine and the amount of the check are not paid within seven days after notice is sent from the Fiscal Department, the student will be required to withdraw from College.

Notes.—Notes must be approved by the President. A fee of fifty cents will be charged for each \$50.00 or fraction thereof.

Duplicate Receipts.—A fee of fifty cents will be charged for duplicate receipts.

Deductions.—No deductions will be made for entrance within 15 days after the opening of a term, nor will there be any refunds for the last 15 days of a term or the last 15 days paid for.

UNIFORM.

Every cadet must keep on hand in good condition: 1 regulation olive drab woolen blouse; 1 pair olive drab woolen breeches; 1 regulation olive drab cap; 1 regulation hat with silk cord; 2 olive drab woolen shirts; 2 O. D. cotton shirts; 2 white shirts, cuffs attached; 6 white linen rolled collars; 2 pair tan leather shoes; 1 regulation black four-in-hand tie; one regulation waist belt; 1 regulation leather belt; one pair wrapped leggings; for Cavalry and Field Artillery units in addition, 1 pair canvas leggings reinforced with leather; 2 pair olive drab cotton breeches; 1 set collar ornaments; 3 R. O. T. C. shields; 1 gold star; 1 working suit, and an ample supply of underwear.

In the interest of comfort and economy, every cadet is advised to provide himself with the regulation O. D. overcoat. The deposit of \$21.62 for this item must be made in advance.

PART IV
COURSES OF STUDY



COURSES OF STUDY.

There are twelve regular Courses, extending through four years; ten of them lead to the degree of Bachelor of Science; the particular Course pursued being specified in the diploma; the Course in Veterinary Medicine leads to the degree of Doctor of Veterinary Medicine; and there are graduate Courses and short Courses as shown below.

REGULAR COURSES.

- I. Course in Agriculture.
- III. Course in Mechanical Engineering.
- IV. Course in Civil Engineering.
- V. Course in Electrical Engineering.
- VI. Course in Textile Engineering.
- VIII. Course in Chemical Engineering.
- IX. Course in Architecture.
- XI. Course in Veterinary Medicine.
- XII. Course in Agricultural Education.
- XIII. Course in Industrial Education.
- XIV. Course in Agricultural Administration.
- XV. Course in Agricultural Engineering.

GRADUATE COURSES.

(A) Graduate Courses leading to the degree of Master of Science, in Agriculture, in Agricultural Education, or in Architecture.

(B) Graduate Courses leading to the degree of Chemical Engineer, Civil Engineer, Electrical Engineer, Mechanical Engineer.

TWO-YEAR COURSES.

- (C) Course in Agriculture.
- (H) Course in Textile Engineering.
- (M) Course in Agricultural Engineering.
- (N) Course in Engineering.

EIGHT WEEKS' COURSE.

Course in Automobiles and Tractors.

THE SCHOOL OF AGRICULTURE.

In the School of Agriculture there are offered the following Courses:

Regular Four-Year Courses.—Course in Agriculture; Course in Agricultural Education; Course in Agricultural Administration.

Two-Year Courses.—Two-Year Course in Agriculture; Two-year Course in Agricultural Engineering.

Short Courses.—Eight Weeks' Course in Automobiles and Tractors.

COURSE IN AGRICULTURE.

The regular four-year course has as its main object the preparation of young men for the business of farming, for the pursuit of scientific investigation along some line of agriculture, for becoming county demonstration agents, or extension workers, for specialists in Landscape Art and for teaching in the high schools and agricultural colleges. It also affords excellent preparation for young men who intend to follow business pursuits, especially for merchants and bankers. Systematic training is given in the sciences of biology, chemistry, entomology and geology, which are fundamental to the study of scientific agriculture, and in technical subjects, covering the main divisions of agriculture, including agricultural engineering, agronomy, animal husbandry, dairy husbandry and horticulture. As shown in the curriculum, the work in the Junior and senior years is arranged so as to provide for a choice by the student of one of ten groups of studies. This arrangement affords the student a wide range of subjects from which to choose his major work, permitting him to specialize in agricultural chemistry, agricultural education, agricultural engineering, agronomy, animal husbandry, biology, dairy husbandry, entomology, horticulture, or in landscape art.

As will be noted, certain studies are common to all the groups; and in each group a part of the work is elective; see list A, page 105. The choice of groups is to be made by April 15 of the Sophomore year.

COURSE IN AGRICULTURAL EDUCATION.

The purpose of the Course in Agricultural Education is to prepare men to teach agriculture in secondary schools and to administer and supervise vocational agriculture such as is carried on under the Smith-Hughes Act. The fundamental principles in the main divisions of agriculture, and a minimum of professional training and practice teaching are required. Considerable opportunity is given the student by means of the

electives for choice of subjects. In case of students transferring from other institutions and entering the course in Agricultural Education, the electives are not limited to the courses offered by the School of Agriculture. Such credit and classification will be given as the facts may warrant. Agricultural students who have completed the junior year in the State Normal Schools, and graduates of the Junior Agricultural Colleges can transfer to this course with little or no loss of time.

Graduates of approved institutions having satisfactory training in the sciences underlying the study of agriculture will be awarded the degree of Bachelor of Science in Agricultural Education upon satisfying the following requirements: forty-five term-hours of technical agriculture as approved by the Professor of Vocational Teaching, fifteen term-hours of professional subjects as prescribed in the curriculum, and at least a year's residence. Candidates for admission under this provision must present their credits in advance.

The great demand for skilled teachers and administrators of vocational agriculture in every State should make this course appeal to young men with good science training, farm experience, and successful experience in teaching and administering schools.

COURSE IN AGRICULTURAL ADMINISTRATION.

This course is intended primarily for young men who are interested in the business side of agriculture rather than in the productive side. The work will be of special value to those who expect to become merchants, bankers, or business men in general. This course will also prepare students for advanced work in economics, history, sociology, and political science.

The work of the first two years is prescribed, and for the first year is the same as that of the freshman year in the course in Agriculture. In the junior and senior years the student elects from six to nine hours of work each term. It is expected that the majority of the electives will be chosen from the agricultural groups.

TWO-YEAR COURSE IN AGRICULTURE.

This course is intended for young men who wish to spend one or two years in preparing to go back to the farm and apply the more important scientific methods of farming which have been worked out in recent years. To this end the course is made highly practical and includes much of the technical work required in the four-year course. In the first year, the studies are all prescribed; in the second year, they are elective. The electives must be chosen under the advice and direction of the Dean of the School of Agriculture. Students who have had approved farm experience will, upon completion of this course, be awarded certificates.

TWO YEAR COURSE IN AGRICULTURAL ENGINEERING.

This course is designed, primarily, to meet the needs of the student who wishes to specialize in the engineering side of agriculture. It will especially prepare students for farm work where a great deal of machinery and equipment is used and for the farm implement and tractor business.

The use of improved farm machinery, gas engines, tractors, and engineering as applied to agriculture, is becoming of greater importance each year in the development of the agricultural interests of the State.

Students who have an aptitude for mechanics and who are interested in agriculture will find this course well suited to their needs. The electives must be chosen under the advice and direction of the Professor of Agricultural Engineering.

EIGHT WEEKS' COURSE IN AUTOMOBILES AND TRACTORS.

The object of this course is to prepare men to become operators of tractors and tractor-operated machinery, or to become tractor, automobile and motor truck mechanics. The course is intensely practical.

The subjects covered are single cylinder gas engines, tractors, chassis, babbitting, soldering, acetylene welding, electrical ignition, starting and lighting, multiple cylinder motors, repair, adjustment and troubles.

A specialist is in charge of each division of the work and gives each student personal attention.

Admission Requirements.—In order to enter this course the applicant must be at least eighteen years of age; it is desirable, though not required, that he have a grammar school education. He must present a certificate from some reliable person, showing that he is in good standing in the community from which he comes.

During the summer session the minimum age requirement for this course is sixteen years.

Expenses.—The fixed charges are:

| | |
|---|----------------|
| Incidental fee ----- | \$ 5.00 |
| Medical fee ----- | 5.00 |
| Maintenance including board, room, lodging and laundry ----- | 60.00 |
| Laboratory fee ----- | 60.00 |
| Total ----- | <hr/> \$130.00 |

(The charges for this course are subject to change due to variation in cost of maintenance and operating expenses).

Registration Dates.—New classes in this course are formed about every two weeks. The first course for the session

1921-22 will open September 21. Students should notify the Registrar of their intention of entering some time in advance of the opening date. For special circular describing this course write the Professor of Agricultural Engineering.

Advanced Work.—Students who have completed the eight weeks course and who wish to specialize in one of the branches of the eight weeks course may do so by taking special work for four weeks.

The fees for this work will be one-half of those of the regular eight weeks course. Students may start this work on the same dates that the new classes in the eight weeks' course start.

Students may enroll for this work on the approval of the Dean of the College and of the Head of the Agricultural Engineering Department.

THE SCHOOL OF ENGINEERING.

COURSES OF STUDY.

In the School of Engineering there are offered the following courses:

REGULAR FOUR YEAR COUSES.

- Course in Agricultural Engineering.
- Course in Architecture.
- Course in Chemical Engineering.
- Course in Civil Engineering.
- Course in Electrical Engineering.
- Course in Mechanical Engineering.
- Course in Textile Engineering.
- Course in Industrial Education.

TWO-YEAR COURSES.

- Two-year Course in Engineering.
- Two-year Course in Textile Engineering.

COURSE IN AGRICULTURAL ENGINEERING.

The course in Agricultural Engineering is designed to give the student an engineering training with an agricultural viewpoint. A thorough grounding in fundamental engineering principles is given, as much time is devoted to purely agricultural subjects as possible, and the application of engineering to agriculture receives its share of attention.

The need of such engineers is being felt more and more each year as the demand grows for farms to be better equipped with power machinery, farm buildings and home conveniences and more land to be reclaimed by drainage, irrigation and clearing.

Graduates of this course are prepared for service in the following lines: with the colleges and government in teaching, extension and experiment station work; with manufacturers of

farm machinery, gas engines, tractors, other farm equipment and farm buildings, in advertising, sales and designing work; with engineering and contracting firms doing irrigation work and drainage work; and with farm and trade journals.

COURSE IN ARCHITECTURE.

The course in Architecture is planned to give a thorough training in the arts and sciences which form the foundation work necessary for the design and construction of buildings. Practice courses are arranged to go hand in hand with the theory taught, serving to fix in the student's mind the proper application of theory to practical problems and also preparing him to become upon graduation of immediate usefulness as an Architect's assistant.

The course is arranged in two groups: Group 1, General Course; Group 2, Structural Course. The Freshman year is the same in both groups, while the Sophomore, Junior and Senior years are arranged, in the General Course, to give a broad general training in design and construction, with special emphasis placed upon design; and, in the Structural Course, to give a minimum of pure design and a maximum of theory and practice in the structural side of building.

Students possessing an aptitude for arrangement, proportion and harmony are advised to elect the General Course, while those who are inclined more to mathematics and the engineering side of building are advised to elect the Structural Course.

Graduates in Architecture find positions as draftsmen, designers, superintendents or general assistants in Architect's offices; in the Architectural and Engineering departments of railway and business corporations; in construction companies in the Civil Service of the government, and in State and municipal employment. Three to four years of progressive practical experience should fit the young Architect to enter the active practice of his profession. Ability, integrity, tact and resourcefulness will be the determining factors in his success. Modern building is an extremely complicated industry and the duties of the Architect, as the designer and advisor in building operations, are exacting and complex. One man can not be expert over the whole field, and hence partnerships are desirable. It might be pointed out that the two courses of study given in this Department naturally lead to the formation of partnerships between individuals of the two groups.

COURSE IN CHEMICAL ENGINEERING.

This course is designed to prepare young men for technical work in those industries in which raw materials undergo a chemical change in the process of manufacture. Many fields are open to students trained in applied chemistry, and in-

quiries are continually being received asking for men capable of filling important positions in different industries. Some industries important to the present and future development of this State are those dealing with cottonseed products, sugar, leather, petroleum, cement, ceramics, and iron and steel. The analytical chemistry given in the course is sufficient to enable the graduate to engage in the work of a commercial plant or to enter an industrial plant as a control chemist. The control chemist repeatedly analyzes and evaluates the raw material used in the manufacture as well as the intermediate and finished products. It is through such control that industries of this kind have been made scientific. Pure food laws and other legal enactments calculated to protect the people against fraud have, of late years, greatly accentuated the importance of this work. At the same time enough work is given in general engineering practice to enable the graduate who enters the works as a control chemist to come in time to a full understanding and mastery of the industry in which he is engaged.

The fifth year's work, leading to the degree of Chemical Engineer, is designed to facilitate the transformation of the control chemist into the manager of an industrial plant, capable of adapting chemical processes of varying conditions and improving upon them as occasion demands.

COURSE IN CIVIL ENGINEERING.

The course in Civil Engineering has for its object the thorough grounding of young men in the underlying principles of engineering as a preparation for their technical work after graduation. The fundamentals of good citizenship are also stressed as these concern the future relationships of practicing engineers to their surroundings. As many special lines are touched on as time will permit. Preliminary field and office work, specification and contract writing, the letting of contracts, supervision of construction, the preparation and presentation of designs and reports, etc., are all treated in as much detail as possible in the time available. The course is divided into two groups: (1) General civil engineering, and (2) highway and municipal engineering.

The objectives of the general civil engineering course are many and varied. Among them may be mentioned professional practice in surveying, water supply, sewerage and sewage disposal; railway location, construction and maintenance; the design and construction of dams, reservoirs, irrigation systems, pumping plants, drainage and navigation canals, wharves and docks, levees, river regulation; foundations, masonry structures, steel and reinforced concrete bridges, steel and reinforced concrete building construction, and others.

Graduates in the highway and municipal engineering

group are prepared for service in the highway departments of States, counties, road districts, city engineering departments, with consulting engineers, contractors engaged in road and pavement construction, road machinery supply houses, water-works and sanitary engineers and contractors, etc.

A well equipped laboratory for the study of bituminous pavements and paving materials affords not only a means of up-to-date instruction for students, but opportunity for co-operative work with cities in the investigation of their pavements and available paving materials. Connected with it is an excellently equipped testing laboratory for non-bituminous road materials.

The fifth year's work, leading to the degree of Civil Engineer (C. E.), offers opportunity for more advanced study in some of the branches of Civil Engineering than can be had within the limits of the four-year course. Every student who can afford the time and money is urged to follow his four-year course, when possible, with the more technical work of the fifth year.

On page 132 there is given a list of courses from which the fifth-year student will ordinarily be expected to select his studies, but the subjects selected must be such as to form a consistent group. In so far as practicable the subjects approved will be such as will best fit the needs of each particular candidate for the advanced degree.

COURSE IN ELECTRICAL ENGINEERING.

The course in Electrical Engineering is designed to give the student a thorough training in the underlying principles of direct and alternating current phenomena and of electric measurements. It provides training in subjects fundamental to the general practice of the engineering profession, in the theory of electricity, and in the application of the theory to practical problems in many branches of engineering.

The work of the first three years of the course is intended to cover most of the fundamental principles of engineering. This is followed in the Senior year by a more detailed study of the application of these principles. The applied subjects are taught with two objects, the first and more important of which is to impress more firmly on the student's mind the principles already learned. The second object is to give the student specific information about some branch of electrical engineering.

Electrical Engineering presents broad opportunities for the young man trained to meet its needs. A few of the fields into which he may enter are outlined below:

The electric power plant in a community has come to be considered the source of energy not only for the lighting of the buildings and streets, but for the operation of all kinds of

machinery ranging in size from the largest factory to the sewing machine and the vacuum cleaner. It has come to be recognized that technically trained engineers are needed not only for the more highly technical positions in the organization of the central stations, but that by virtue of their technical knowledge they are also best qualified for practically every position of responsibility in such organizations.

The utilization of electrical energy by manufacturing organizations has necessitated the employment of electrical engineers to design the installation of the electrical machinery and supervise it when it is in operation.

The electric railway industry is another field in which electrical engineers are required, and the electrification of steam railroads has created a demand for electrical engineers to supervise the electrical equipment used in the production of the power and operation of the trains. The electrification of railroads is in its infancy but the decided gain in efficiency from operating with electricity instead of steam will cause a steady increase in the number of roads to be electrified.

The telephone and telgraph companies have always used a limited number of electrical engineers but with the greater complexity of electrical devices which are displacing the simpler systems, trained engineers are in demand not only for the more highly specialized positions but also for administrative and executive positions where a knowledge of electrical engineering is becoming important. Radio engineering is a new field for electrical engineers which, while comparatively new, bids fair to become of considerable importance.

Many electrical engineers are needed in organizations engaged in the manufacture of electrical machinery and in its sale and erection.

There are a great many other sub-divisions such as that of the illuminating engineer, the signal engineer, the battery engineer, and a score of others which offer excellent fields for men with proper training.

The course is outlined with a view to giving a young man such fundamental principles of electrical engineering and such mental development and faculty of analysis, as will enable him to rise to a position of responsibility in any one of the principal fields of electrical engineering.

A Signal Corps Unit of the Reserve Officers' Training Corps has been established at the College and electrical engineering students who elect to become members of this unit have an opportunity to receive thorough instruction in telephone, telegraph and radio engineering in addition to their other engineering work. For use in the Signal Corps work, the government has supplied a complete assortment of modern equipment.

A branch of the American Institute of Electrical Engineering has been organized among the students and affords the means of keeping students in touch with the latest development in the electrical field.

COURSE IN MECHANICAL ENGINEERING.

The course in Mechanical Engineering is designed with a view of giving the student such training as will fit him to design, construct and erect machinery, power and industrial plants, equipment, etc., and to manage or to operate the same with the greatest economy of labor and materials.

It is not possible to give the student that skill in the shops and that experience in the laboratories which come with long service in practical work, but the aim is to give him the power to understand and apply the underlying principles which are involved in all problems met with in practical engineering.

When it is remembered that there is a steam power plant or other mechanical equipment connected with practically every industrial enterprise it is apparent that the graduates from the course in Mechanical Engineering should find a large field for their activities in the industrial development of the State. While the chief aim of the curriculum is to give a thorough grounding in the fundamentals it is possible for the student, by group selection in his Senior year and by selection of his electives, to specialize along the lines of his choice. The group arrangement of the Senior year enables the student to specialize in power plant work, in transportation and railway mechanical engineering, or in factory management and industrial engineering. The electives enable the student to specialize in cottonseed oil industry, or in petroleum industry. The training at the College, followed by a few years contact with the practical work, should fit one to take charge of the operation or of the management of almost any industrial enterprise whether strictly mechanical engineering or involving other activities as well.

Included in the field of the graduate from this course are railway motive power, automotive, and marine transportation, refrigeration, steam and oil engine power equipment, heating and ventilation, iron and steel production, and fabrication, machine tool industry, lumber production and utilization, factory management, production and refining of petroleum, and almost unlimited other lines.

COURSE IN TEXTILE ENGINEERING.

The object of this course is to prepare young men for entering the field of cotton manufacturing. The unprecedented development of the cotton milling industry in the South has brought about an era of prosperity and created a strong demand for educated young men in this industry. The State of

Texas offers excellent advantages for the manufacture of cotton goods in its vast supply of raw material, intelligent labor, and excellent climatic conditions, and it is believed that cotton manufacturing will develop as rapidly as skilled and capable managers familiar with local conditions are to be had. The studies outlined have been selected with a view of giving theoretical and practical training in the manufacture of cotton goods as thorough as is possible in the time available.

Graduates from this course are prepared to enter the cotton mills to operate any machinery. After a study of labor conditions and requirements they are in line for positions of overseers, superintendents and managers. Graduates may also find employment in the fields of mill engineering and architecture, installation of equipment, dyeing and the sale of machinery and supplies.

COURSE IN INDUSTRIAL EDUCATION.

The course in Industrial Education has for its main purpose the preparation of teachers of related subjects as prescribed for industrial education under the Smith-Hughes Act. Graduates of this course will be prepared not only to teach related subjects but to teach the regular shop work ordinarily given in the high schools of the State, and to direct or supervise industrial education in large city school systems. The course requires contact with a wide range of trades through its shop work and a liberal education in science, mathematics, history, English, etc. Thorough preparation in the art of teaching and supervising is afforded. The wide range of electives permits the student to specialize in some trade, or to do more extensive work in a wide field.

The State plans for requirements of teachers of related subjects in classes using federal funds under the provisions of the Smith-Hughes Act specify that the teacher must have had at least 880 hours of experience in at least two trades. This is to insure adequate contact with shops operated on a commercial basis. Students in this course are expected to get this experience through summer work following the Sophomore year and the Junior year. The Department of Vocational Teaching will assist in arranging for this work.

TWO-YEAR COURSE IN ENGINEERING.

This course is intended for those who are unable to take a four-year course but who wish to prepare themselves for positions of responsibility along engineering lines.

The course is designed particularly for young men who have had some practical experience in a power house or in electrical work and who wish to add to their theoretical knowledge of the fundamentals of steam engineering and electricity. The entrance requirements are made low to allow any deserv-

ing applicant to enter but any additional preparation or training will enable him to profit more from his course.

TWO-YEAR COURSE IN TEXTILE ENGINEERING.

The two-year course in Textile Engineering is intended for young men who wish to take up the work of cotton manufacturing and cannot spend more than two years in preparation.

The aim is to prepare young men for responsible positions in a cotton mill after a short term of apprenticeship. A limited number of students taking this course will be given employment during their vacant periods in operating the equipment of the department, which is turning out a commercial product. In this way students are encouraged to devote a good deal more time to the operation of the machinery, which should better fit them for their career in the mill and at the same time help to pay their expenses in college. Certificates will be given students who complete the work as outlined.

Students completing this course are fitted in a limited way for the same fields that are open to graduates. They will be very much restricted in the field of dyeing and mill engineering and architecture.

THE SCHOOL OF VETERINARY MEDICINE.

COURSE IN VETERINARY MEDICINE.

This course has for its object the systematic training of young men in all matters pertaining to diseases of domestic animals.

The Freshman and Sophomore years are, in large measure, devoted to those physical and biological studies that contribute so much to an understanding of the problems of health and disease. The Junior and Senior years are almost entirely devoted to studies of a technical nature.

Those who expect to engage in ranching, dairying or some other branch of animal industry, will find the course of great value to them in preventing serious losses from disease or mismanagement of their animals. Those who possess a biological mind will find it an interesting life study, and such men are in great demand in matters of public health or as investigators in Experiment Stations. Those who pursue the course from commercial motives will find its rewards are similar to those of any other form of human endeavor in that these will always be in proportion to the intelligence and energy displayed by the individual.

When it is recalled that the value of domestic animals in Texas is about five hundred million dollars, it becomes apparent that men informed on such matters will be of great value to the State.

GRADUATE COURSES.

Administration.—The regulations Concerning graduate studies and all matters relating thereto are administered by the Committee on Graudate Studies.

Advanced Degrees.—The College offers graduate courses leading to advanced degrees as follows: Master of Science (M. S.), Chemical Engineer (Ch. E.), Civil Engineer (C. E.), Electrical Engineer (S. E.), Mechanical Engineer (M. E.)

Admission.—In order to be admitted to a course of study leading to an advanced degree, the candidate must satisfy the following requirements:

1. He must be a graduate of this College or of some other institution approved by the Faculty.

2. His under-graduate work must be of such high order as to satisfy the Committee that he is qualified by native ability and by training to pursue graduate studies with profit and with credit. In case his under-graduate work does not fully meet this requirement, the Committee may require the completion of additional under-graduate work with a grade of at least B.

Application should be made in advance to the chairman of the committee, and in case the candidate comes from another institution, his application must be accompanied by a complete transcript of his undergraduate record, properly certified.

Registration.—Graduate students must register at the beginning of each term at the office of the Registrar.

Studies.—a. For the degree of Master of Science in Agriculture or in Agricultural Education the candidate must choose from the graduate courses listed under the several departments, a major subject and two minor subjects; his choice to be subject to the approval of the heads of departments concerned and of the committee. For each hour of theory the student will be expected to devote to preparation six hours for the major subject and three hours for each minor subject.

(b) For the advanced degrees in engineering and in architecture the courses of study are shown under "curricula."

Residence.—Advanced degrees will not be conferred except after a residence of at least one year at the College. For candidates engaged in teaching or other regular employment, the period of residence will be increased to such extent as the committee may determine.

The residence requirement may be satisfied by residence during three summer sessions of twelve weeks each.

The number of graduate courses offered in the Summer Session is limited, and application should be made at least one month in advance.

Amount of Work.—The amount of work required for an advanced degree is reckoned as the equivalent of the student's full time for one academic year.

Quality of Work.—In order to be allowed to go on with his course a graduate student must give continued satisfaction in his work.

Thesis.—The candidate must submit a thesis, which shall be based upon his work in the department in which he takes his leading subject. Its title must be submitted to the committee for approval by November 15. In matter and style the thesis must be acceptable to the head of the department in which it is written and to the committee. It must show that the candidate has the ability to do independent work; and, by correct citation of authorities, must show that he has satisfactory acquaintance with the literature of his field.

The thesis must be typewritten on paper 8½ inches by 11 inches; two weeks before commencement it must be presented to the committee in completed form ready for binding. Before the degree is conferred a bound copy for the College library must be deposited with the chairman of the committee.

Examinations.—The candidate must pass satisfactory examinations upon the work of his course. These examinations may be oral or written, or both, and shall be open to the committee and to members of the Faculty.

Reports.—Heads of departments will make reports to the Registrar at the end of each term on all graduate work done in their respective departments; and such other reports on the progress of their graduate students as the committee may request.

Special Committee.—The instructors under whom a graduate student takes work shall constitute a special committee to direct and advise him concerning his work and to represent him before the Committee on Graduate Studies. The instructor in charge of the leading subject shall be chairman of the special committee in each case.

Graduation.—Candidates for advanced degrees who expect to complete their work at the end of a given term must give written notice to the Chairman of the Committee to that effect at least three months in advance. When a candidate has to the satisfaction of the Committee on Graduate Studies completed the requirements for an advanced degree he will be recommended to the Faculty for his degree. The diploma fee is \$7.50.

GRADUATE SCHOLARSHIPS.

For the session 1921-22 the College offers twenty graduate scholarships, each carrying a stipend of \$200, payable in eight installments. They are open to graduates of approved institutions who desire to do advanced work in Agriculture or in Engineering. The holder of a scholarship must maintain a uniformly high standing in his work and must render the College such service as may be required of him, not to exceed six hours a week.

Application for scholarships must be addressed to the President, who will refer them to the proper committee for recommendation. They must be accompanied by a complete transcript of the applicant's undergraduate record and by a letter of recommendation from the President or other officer of his college.

WORKING FELLOWSHIPS IN THE EXPERIMENT STATION.

With the approval of the Committee, a graduate student holding an appointment to a working fellowship in the Agricultural Experiment Station may take part of his work for the degree of Master of Science under the head of a division of the Agricultural Experiment Station. The holder of such a fellowship must spend at least two years upon his graduate work.

CURRICULA.

THEORY, PRACTICE, TERM-HOUR.

In the curricula shown on the following pages, the time devoted each week to the several subjects is expressed in clock-hours. The hours devoted to "theory" (which includes recitations and lectures) are indicated in the column headed "Th.," the hours devoted to "practice" (which includes work in laboratory, shop, drawing room or field) are indicated in the column headed "Pr."

A "term-hour" is one clock-hour of "theory" or two clock-hours of "practice" per week for one term.

Notes.—1. In addition to the work shown in the several curricula,

(a) All first-year students are required to take Physical Training three hours a week.

(b) Students taking English are required to attend conferences with their instructors.

(c) In the four-year agricultural and engineering courses all students are required to attend an assembly not oftener than once a month.

(d) Members of the R. O. T. C. are required to devote two afternoons in the second term of every year to target practice.

2. Junior and senior courses in Military Science are required of members of the advanced course in the R. O. T. C.; they are not open to other students.

I.—COURSE IN AGRICULTURE.

FRESHMAN YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|------------------------------|-----------------|-----|-----------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Agronomy 101 | 3 | 2 | Animal Husbandry 102... | 0 | 4 |
| Crop Production | | | Market Types | | |
| Animal Husbandry 101.... | 0 | 4 | Biology 102 | 2 | 4 |
| Market Types | | | General Botany | | |
| Biology 101 | 2 | 4 | Chemistry 102 | 3 | 3 |
| General Botany | | | Inorganic | | |
| Chemistry 101 | 3 | 3 | Dairy Husbandry 102.... | 3 | 2 |
| Inorganic | | | Dairying | | |
| Dairy Husbandry 101.... | 0 | 2 | English 104 | 3 | 0 |
| Judging Dairy Cattle | | | Rhetoric and Composition | | |
| English 103 | 3 | 0 | Military Science 102 or 104 | 1 | 2 |
| Rhetoric and Composition | | | Textile Engineering 102.. | 0 | 2 |
| Military Science 101 or 103. | 1 | 2 | Cotton Classing | | |
| Textile Engineering 101.... | 0 | 2 | | | |
| Cotton Classing | | | | 12 | 17 |
| | 12 | 19 | | | |

SOPHOMORE YEAR.

| | | | | | |
|------------------------------|----|----|-----------------------------|----|----|
| Agricultural Engineering 203 | 2 | 2 | Agricultural Eng. 204.... | 2 | 2 |
| Gas Engines | | | Farm Machinery | | |
| Animal Husbandry 201.... | 2 | 2 | Animal Husbandry 202... | 2 | 2 |
| Farm Poultry | | | Breed Types | | |
| Biology 201 | 1 | 4 | Biology 202 | 1 | 4 |
| Zoology | | | Zoology | | |
| Chemistry 209 | 3 | 2 | Chemistry 206 | 3 | 2 |
| General Geology | | | Organic | | |
| English 203 | 2 | 0 | Chemistry 210 | 2 | 2 |
| Composition | | | Agricultural Geology | | |
| Entomology 201 | 2 | 2 | English 204 | 2 | 0 |
| General | | | Composition | | |
| Horticulture 201 | 2 | 2 | Horticulture 202 | 2 | 2 |
| Plant Prop. and Orchardng | | | Vegetable Gardening | | |
| Military Science 201 or 203. | 1 | 2 | Military Science 202 or 204 | 1 | 2 |
| | 15 | 16 | | 15 | 16 |

Required in all groups.

JUNIOR YEAR.

| | | | | | |
|------------------------|---|---|------------------------|---|---|
| Agronomy 301 | 4 | 2 | Agronomy 302 | 4 | 2 |
| Soils | | | Farm Crops | | |
| Chemistry 309 | 3 | 4 | Economics 306 | 3 | 0 |
| Agricultural Chemistry | | | Fundamental Principles | | |
| English 301 | 1 | 0 | English 304 | 2 | 0 |
| Argumentation | | | Argumentation | | |
| | 8 | 6 | | 9 | 2 |

SENIOR YEAR.

| | | | | | |
|------------------------------|---|---|----------------------------|---|---|
| English 401 | 1 | 0 | English 402 | 1 | 0 |
| Public Speaking | | | Public Speaking | | |
| Rural Social Science 401.... | 3 | 0 | Farm Management 402... | 3 | 4 |
| Rural Economics | | | Farm Management | | |
| | | | Rural Social Science 402.. | 3 | 0 |
| | | | Rural Sociology | | |
| | 4 | 0 | | 7 | 4 |

LIST A.

Electives common to all groups.

JUNIOR AND SENIOR YEARS.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|---------------------------------|-----------------|-----|------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Agricultural Engineering 305 | 3 | 4 | Agricultural Eng. 304..... | 2 | 2 |
| Surveying and Drainage | | | Drainage | | |
| Agricultural Engineering 317 | 2 | 4 | English 322 | 3 | 0 |
| Tractors | | | Literature | | |
| English 321 | 3 | 0 | English 404 | 3 | 0 |
| Literature | | | Public Speaking | | |
| English 403 | 3 | 0 | Forestry 302 | 2 | 2 |
| Public Speaking | | | Sylviculture | | |
| Forestry 301 | 2 | 2 | History 308 | 3 | 0 |
| Principles of Forestry | | | Industrial History | | |
| History 307 | 3 | 0 | Mil. Sci. 302, 304, 402, 404 | 3 | 2 |
| Europe Since 1815 | | | Modern Lang. 312, 314, 316 | 3 | 0 |
| History 305 | 3 | 0 | French, German or Spanish | | |
| Citizenship | | | Modern Lang. 422, 424, 426 | 3 | 0 |
| Mil. Sci. 301, 303, 401 or 403 | 3 | 2 | French, German or Spanish | | |
| Modern Lang. 311, 313, 315 | 3 | 0 | Rural Social Science 404.. | 3 | 0 |
| French, German or Spanish | | | Agricultural Organization | | |
| Modern Lang. 421, 423, 425 | 3 | 0 | Vocational Teaching 308'.. | 3 | 0 |
| French, German or Spanish | | | Educational Psychology | | |
| Rural Social Science 403... 3 | 0 | | Vocational Teaching 402.. | 3 | 0 |
| Agricultural Marketing Problems | | | Adm. of H. S. Agriculture | | |
| Vocational Teaching 305.... 3 | 0 | | | | |
| Vocational Education | | | | | |
| Vocational Teaching 401... 3 | 0 | | | | |
| Methods of Teaching | | | | | |

GROUP 1. AGRICULTURAL CHEMISTRY.

JUNIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|----------------------------|-----------------|-----|---------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Chemical Engineering 303.. | 3 | 4 | Agronomy 304 | 0 | 3 |
| Physical Chemistry | | | Soil Mapping | | |
| Dairy Husbandry 301..... | 2 | 2 | Chemical Engineering 304. | 3 | 4 |
| Market Milk | | | Sanitary Chemistry | | |
| *Elective | 3 | | Chemical Engineering 306. | 1 | 2 |
| | | | Microchemical Methods | | |
| | | | *Elective | 3 | |
| | 8 | 6 | | 7 | 9 |

*To be chosen from List A.

SENIOR YEAR.

| | | | | | |
|--------------------------|----|----|----------------------|---|---|
| Animal Husbandry 409.... | 3 | 2 | Agronomy 408 | 2 | 2 |
| Animal Nutrition | | | Advanced Soils | | |
| Chemistry 421 | 2 | 8 | Chemistry 436 | 1 | 0 |
| Advanced Agricultural | | | History of Chemistry | | |
| *Elective | 6 | | *Elective | 6 | |
| | 11 | 10 | | 9 | 2 |

*To be chosen from the following:

| | | | | | |
|----------------------|---|---|---------------------------|---|---|
| Biology 415 | 1 | 6 | Biology 416 | 1 | 6 |
| General Bacteriology | | | Agricultural Bacteriology | | |
| List A | | | List A | | |

AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

GROUP 2. AGRICULTURAL EDUCATION.

JUNIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|-----------------------------|-----------------|----------|---------------------------|-----------------|----------|
| | Th. | Pr. | | Th. | Pr. |
| Vocational Teaching 305.... | 3 | 0 | Vocational Teaching 308.. | 3 | 0 |
| Vocational Education | | | Educational Psychology | | |
| *Elective | 9 | | *Elective | 8 | |
| | <u>9</u> | <u>0</u> | | <u>11</u> | <u>0</u> |

*To be approved by the Professor of Vocational Teaching.

SENIOR YEAR.

| | | | | | |
|------------------------------|-----------|----------|---------------------------|-----------|----------|
| Animal Husbandry 409.... | 3 | 2 | Vocational Teaching 402.. | 2 | 2 |
| Animal Nutrition and Feeding | | | Adm. of H. S. Agriculture | | |
| Vocational Training 401... | 3 | 0 | *Elective | 8 | |
| Methods of Teaching | | | | | |
| *Elective | 9 | | | | |
| | <u>15</u> | <u>2</u> | | <u>10</u> | <u>2</u> |

*To be approved by the Professor of Vocational Teaching.

GROUP 3. AGRICULTURAL ENGINEERING.

JUNIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|------------------------------|-----------------|----------|----------------------------|-----------------|-----------|
| | Th. | Pr. | | Th. | Pr. |
| Agricultural Engineering 305 | 3 | 4 | Agricultural Eng. 302.... | 0 | 4 |
| Surveying and Drainage | | | Repairing Farm Machinery | | |
| Mechanical Eng. 333..... | 0 | 3 | Agricultural Eng. 314 | 2 | 4 |
| Forging | | | Tractors | | |
| *Elective | 3 | | Agricultural Eng. 316 | 2 | 2 |
| | | | Irrigation | | |
| | <u>6</u> | <u>7</u> | *Elective | 3 | |
| | | | | <u>7</u> | <u>10</u> |

*To be chosen from the following:

| | | | | | |
|-----------------------|---|---|---------------------|---|---|
| Chemistry 407 | 1 | 3 | Chemistry 418 | 1 | 3 |
| Quantitative Analysis | | | Technical Analysis | | |
| List A | | | List A | | |

SENIOR YEAR.

| | | | | | |
|------------------------------|-----------|----------|----------------------------|----------|----------|
| Agricultural Engineering 409 | 1 | 2 | Agricultural Eng. 402 | 2 | 4 |
| Farm Concrete | | | Automobiles and Trucks. | | |
| Agricultural Engineering 413 | 2 | 4 | Agricultural Eng. 414 | 0 | 4 |
| Farm Buildings | | | Farm Buildings | | |
| Civil Engineering 407..... | 3 | 0 | *Elective | 6 | |
| Roads and Pavements | | | | | |
| *Elective .. | 6 | | | | |
| | <u>12</u> | <u>6</u> | | <u>8</u> | <u>8</u> |

*To be chosen from the following:

| | | | | | |
|------------------------|---|---|---------------------------|---|---|
| Horticulture 301 | 1 | 4 | Agricultural Eng. 404.... | 0 | 6 |
| Spraying | | | Exp. Agricultural Eng. | | |
| List A | | | Electrical Eng. 412..... | 2 | 2 |
| | | | Motors, Wiring, Lighting | | |
| | | | List A | | |

GROUP 4. AGRONOMY.

JUNIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|---|-----------------|---------|-----------------------------------|-----------------|---------|
| | Th. | Pr. | | Th. | Pr. |
| Agronomy 305 Genetics | 2 | 2 | Agronomy 306 Plant Breeding | 2 | 2 |
| Civil Engineering 319..... Farm Surveying | 2 | 3 | Biology 316 Plant Diseases | 3 | 4 |
| *Elective | 3 | | *Elective | 3 | |
| | <hr/> 7 | <hr/> 5 | | <hr/> 8 | <hr/> 6 |

*To be chosen from the following:

| | | | | | |
|---|---|---|---|---|---|
| Horticulture 303 Principles of Fruit Production | 3 | 2 | Veterinary Anatomy 302.. Anatomy and Physiology | 2 | 2 |
| List A | | | List A | | |

SENIOR YEAR.

| | | | | | |
|---|----------|---------|---|---------|---------|
| Animal Husbandry 409.... Animal Nutrition and Feeding | 3 | 2 | Agronomy 404 Use of Fertilizers and Manures | 2 | 2 |
| Entomology 407 Economic | 3 | 2 | Agronomy 406 Soil Mapping | 0 | 3 |
| Farm Management 403.... Farm Accounting | 1 | 4 | *Elective | 6 | |
| *Elective | 6 | | | | |
| | <hr/> 13 | <hr/> 8 | | <hr/> 8 | <hr/> 5 |

*To be chosen from the following:

| | | | |
|------------------|-----------------------------------|---|---|
| List A | Agronomy 408 Advanced Soils | 2 | 2 |
| | ..List A | | |

GROUP 5. ANIMAL HUSBANDRY.

JUNIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------|-----------------|-------|--------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Animal Husbandry 303.... | 3 | 2 | Animal Husbandry 302.... | 2 | 2 |
| Animal Nutrition | | | Animal Breeding | | |
| Agronomy 305 | 2 | 2 | Entomology 306 | 2 | 2 |
| Genetics | | | Animal Parasites | | |
| *Elective | 3 | | Veterinary Anatomy 302.. | 2 | 2 |
| | | | Anatomy and Physiology | | |
| | | | *Elective | 3 | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 8 | 4 | | 9 | 6 |

*To be chosen from List A.

SENIOR YEAR.

| | | | | |
|----------------------------|-------|-------|-----------------|----|
| Animal Husbandry 401 | 3 | 2 | *Elective | 12 |
| Animal Nutrition | | | | |
| Animal Husbandry 403.... | 1 | 4 | | |
| Advanced Judging | | | | |
| Veterinary Medicine 403... | 3 | 2 | | |
| Animal Diseases | | | | |
| *Elective .. | 6 | | | |
| | <hr/> | <hr/> | | |
| | 13 | 8 | | |

*To be chosen from the following:

| | | | | |
|--------------------------|---|---|---------------------------|---|
| Animal Husbandry 405.... | 0 | 4 | Animal Husbandry 406... 3 | 2 |
| Herd Book Study | | | Beef Cattle Production | |
| Animal Husbandry 411.... | 2 | 2 | Animal Husbandry 410... 3 | 2 |
| Poultry | | | Sheep Production | |
| Animal Husbandry 413.... | 3 | 2 | Animal Husbandry 412... 3 | 2 |
| Horse Production | | | Swine Production | |
| Biology 415 | 1 | 6 | List A | |
| General Bacteriology | | | | |
| List A | | | | |

GROUP 6. BIOLOGY.

JUNIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------|-----------------|-------|-------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Biology 303 | 2 | 4 | Biology 304 | 2 | 4 |
| Plant Physiology | | | Plant Physiology | | |
| Biology 301 | 1 | 4 | Biology 316 | 3 | 4 |
| General Embryology | | | Plant Diseases | | |
| *Elective | 3 | | *Elective | 3 | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 6 | 8 | | 8 | 8 |

*To be chosen from List A.

SENIOR YEAR.

| | | | | | |
|-----------------------------|-------|-------|---------------------------|-------|-------|
| Biology 415 | 1 | 6 | Biology 416 | 1 | 6 |
| General Bacteriology | | | Agricultural Bacteriology | | |
| Biology 423 | 2 | 6 | Biology 426 | 0 | 4 |
| Advanced Vertebrate Zoology | | | Advanced Bacteriology | | |
| *Elective | 6 | | *Elective | 6 | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 9 | 12 | | 7 | 10 |

*To be chosen from List A.

GROUP 7. DAIRY HUSBANDRY.

JUNIOR YEAR.

| | | | | | |
|---------------------------|-------|-------|--------------------------|-------|-------|
| Agronomy 305 | 2 | 2 | Animal Husbandry 302... | 2 | 2 |
| Genetics | | | Animal Breeding | | |
| Dairy Husbandry 301 | 2 | 2 | Dairy Husbandry 304..... | 0 | 2 |
| Market Milk | | | Advanced Judging | | |
| *Elective | 3 | | Dairy Husbandry 302..... | 2 | 2 |
| | | | Dairy Manufactures | | |
| | | | Veterinary Anatomy 302.. | 2 | 2 |
| | | | Anatomy and Physiology | | |
| | | | *Elective | 3 | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 7 | 4 | | 9 | 8 |

*To be chosen from List A.

SENIOR YEAR.

| | | | | | |
|--------------------------|-------|-------|--------------------------|-------|-------|
| Animal Husbandry 401.... | 3 | 2 | Dairy Husbandry 406..... | 3 | 2 |
| Animal Nutrition | | | Dairy Cattle Feeding and | | |
| Biology 401 | 1 | 6 | Management | | |
| General Bacteriology | | | Dairy Husbandry 404.... | 2 | 0 |
| Dairy Husbandry 401..... | 0 | 4 | Seminar | | |
| Herd Book Study | | | *Elective | 6 | |
| *Elective | 6 | | | | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 10 | 12 | | 11 | 2 |

*To be chosen from the following:

| | | | | | |
|----------------------------|---|---|--------------------|---|---|
| Veterinary Medicine 403... | 3 | 2 | Biology 432 | 1 | 4 |
| Animal Diseases | | | Dairy Bacteriology | | |
| List A | | | List A | | |

GROUP 8. ENTOMOLOGY.

JUNIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--|-----------------|----------|---|-----------------|----------|
| | Th. | Pr. | | Th. | Pr. |
| Entomology 301 Advanced Systematic | 2 | 2 | Entomology 302 Advanced Systematic | 3 | 2 |
| Horticulture 303 Principles of Fruit Production | 3 | 2 | Entomology 304 Apiculture | 2 | 2 |
| *Elective, at least | 3 | | *Elective, at least | 3 | |
| | <u>8</u> | <u>4</u> | | <u>8</u> | <u>4</u> |

*To be chosen from the following:

| | | | | | |
|---|---|---|--|---|---|
| Biology 301 General Embryology | 1 | 6 | Biology 316 Plant Diseases | 3 | 4 |
| Biology 303 Plant Physiology | 2 | 4 | Biology 304 Plant Physiology | 2 | 4 |
| Entomology 203 Veterinary Entomology | 3 | 2 | Horticulture 302 Plant Breeding | 2 | 2 |
| List A | | | List A | | |

SENIOR YEAR.

| | | | | | |
|---|-----------|----------|---|----------|----------|
| Entomology 401 Advanced Economic | 3 | 2 | Entomology 402 Advanced Economic | 3 | 2 |
| Entomology 403 Entom. Literature | 3 | 2 | *Elective | 6 | |
| Entomology 410 Seminar | 0 | 2 | | | |
| *Elective | 6 | | | | |
| | <u>12</u> | <u>6</u> | | <u>9</u> | <u>2</u> |

*To be chosen from the following:

| | | | | | |
|---|---|---|--|---|---|
| Biology 415 General Bacteriology | 1 | 6 | Agronomy 406 Use of Fertilizers and Manures | 2 | 2 |
| Horticulture 403 Sub-Tropical Fruits | 3 | 2 | Biology 416 Agricultural Bacteriology | 1 | 6 |
| List A | | | List A | | |

GROUP 9. HORTICULTURE.

JUNIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------------|-----------------|-------|------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Agronomy 305 | 2 | 2 | Biology 316 | 3 | 4 |
| Genetics | | | Plant Diseases | | |
| Horticulture 303 | 3 | 2 | Horticulture 302 | 2 | 2 |
| Principles of Fruit Production | | | Plant Breeding | | |
| *Elective | 3 | | *Elective | 3 | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 8 | 4 | | 8 | 6 |

*To be chosen from the following:

| | | | | | |
|-------------------------------------|---|---|------------------------------|---|---|
| Biology 303 | 2 | 4 | Biology 304 | 2 | 4 |
| Plant Physiology | | | Plant Physiology | | |
| Civil Engineering 319..... | 2 | 3 | Horticulture 304 | 1 | 4 |
| Farm Surveying | | | Nut Culture | | |
| Horticulture 301 | 1 | 4 | Veterinary Anatomy 302.. | 2 | 2 |
| Spraying | | | Anatomy and Physiology | | |
| Horticulture 307 | 2 | 2 | List A | | |
| Introduction to Landscape Art | | | | | |
| List A | | | | | |

SENIOR YEAR.

| | | | | | |
|---------------------------------|-------|-------|---------------------------------|-------|-------|
| Horticulture 401 | 3 | 2 | Horticulture 420 | 0 | 4 |
| Pomology | | | Experimental Horticulture | | |
| Horticulture 419 | 2 | 0 | Horticulture 404 | 2 | 2 |
| Experimental Horticulture | | | Commercial Horticulture | | |
| Entomology 407 | 3 | 2 | *Elective | 6 | |
| Economic | | | | | |
| *Elective | 6 | | | | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 14 | 4 | | 8 | 6 |

*To be chosen from the following:

| | | | | | |
|----------------------------|---|---|----------------------------------|---|---|
| Entomology 405 | 2 | 2 | Horticulture 304 | 1 | 4 |
| Fruit Insects | | | Nut Culture | | |
| Horticulture 301 | 1 | 4 | Horticulture 410 | 2 | 2 |
| Spraying | | | Commercial Vegetable Prod. | | |
| Horticulture 405 | 2 | 2 | Horticulture 412 | 1 | 4 |
| Bush and Vine Fruits | | | Horticultural By-Products | | |
| Horticulture 413 | 0 | 2 | Horticulture 408 | 2 | 2 |
| Seminar | | | Floriculture | | |
| | | | Horticulture 422 | 3 | 2 |
| | | | Sub-Tropical Fruits | | |
| List A | | | List A | | |

†GROUP 10. LANDSCAPE ART.

JUNIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|-------------------------------|-----------------|-------|--------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Civil Engineering 319..... | 2 | 3 | Drawing 316 | 0 | 4 |
| Farm Surveying | | | Water Color | | |
| Horticulture 307 | 2 | 2 | Horticulture 308 | 2 | 0 |
| Introduction to Landscape Art | | | History of Landscape Art | | |
| Drawing 315 | 0 | 2 | *Elective | 8 | |
| Mechanical | | | | | |
| *Elective | 3 | | | | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 7 | 7 | | 10 | 4 |

*To be chosen from List A.

SENIOR YEAR.

| | | | | | |
|------------------------|-------|-------|------------------------|-------|-------|
| Horticulture 415 | 3 | 4 | Horticulture 416 | 3 | 4 |
| Landscape Design | | | Landscape Design | | |
| Horticulture 417 | 2 | 0 | *Elective | 6 | |
| Civic Improvement | | | | | |
| *Elective | 9 | | | | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 14 | 4 | | 9 | 4 |

*To be chosen from the following:

| | | | | | |
|------------------------|---|---|------------------------|---|---|
| Horticulture 409 | 2 | 2 | Horticulture 408 | 2 | 2 |
| Ornamentals | | | Floriculture | | |
| List A | | | List A | | |

†Students taking courses in Landscape Art must provide themselves with drawing instruments, T-square, and drawing board.

XII.—COURSE IN AGRICULTURAL EDUCATION.

FRESHMAN YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------|-----------------|-----|-------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Agronomy 101 3 | 2 | | Animal Husbandry 104... 2 | 4 | |
| Crop Production | | | Live Stock Production | | |
| Animal Husbandry 103.... 2 | 4 | | Biology 102 2 | 4 | |
| Live Stock Production | | | General Botany | | |
| Biology 101 2 | 4 | | Chemistry 102 3 | 3 | |
| General Botany | | | Inorganic | | |
| Chemistry 101 3 | 3 | | Dairy Husbandry 102.... 3 | 2 | |
| Inorganic | | | Dairying | | |
| English 103 3 | 0 | | English 104 3 | 0 | |
| Rhetoric and Composition | | | Rhetoric and Composition | | |
| Military Science 101 or 103. 1 | 2 | | Military Science 102 or 104 1 | 2 | |
| | 14 | 15 | | 14 | 15 |

SOPHOMORE YEAR.

| | | | | | |
|-------------------------------|----|----|-------------------------------|----|----|
| Agricultural Eng. 203.... 2 | 2 | | Agricultural Eng. 204.... 2 | 2 | |
| Gas Engines | | | Farm Machinery | | |
| Animal Husbandry 201.... 2 | 2 | | Biology 202 1 | 4 | |
| Poultry | | | Zoology | | |
| Biology 201 1 | 4 | | Chemistry 206 3 | 2 | |
| Zoology | | | Organic | | |
| English 203 2 | 0 | | Chemistry 212 3 | 2 | |
| Composition | | | Introductory Soil Geology | | |
| Entomology 201 2 | 2 | | English 204 2 | 0 | |
| General | | | Composition | | |
| Horticulture 201 2 | 2 | | Horticulture 202 2 | 2 | |
| Plant Prop. and Orchardng | | | Vegetable Gardening | | |
| Military Science 201 or 203 1 | 2 | | Military Science 202 or 204 1 | 2 | |
| Physics 205 2 | 4 | | | | |
| Agricultural Physics | | | | | |
| | 14 | 18 | | 14 | 14 |

JUNIOR YEAR.

| | | | | | |
|------------------------------|----|---|-----------------------------|----|---|
| Agronomy 301 4 | 2 | | Agronomy 302 4 | 2 | |
| Soils | | | Farm Crops | | |
| Chemistry 309 3 | 4 | | Economics 306 3 | 0 | |
| Agricultural Chemistry | | | Fundamental Principles | | |
| English 301 1 | 0 | | English 304 2 | 0 | |
| Argumentation | | | Argumentation | | |
| Vocational Teaching 305... 3 | 0 | | Vocational Teaching 308.. 3 | 0 | |
| Vocational Education | | | Educational Psychology | | |
| *Elective 6 | | | *Elective 8 | | |
| | 17 | 6 | | 20 | 2 |

SENIOR YEAR.

| | | | | | |
|-------------------------------|----|---|------------------------------|----|---|
| Rural Social Science 401... 3 | 0 | | English 402 1 | 0 | |
| Rural Economics | | | Public Speaking | | |
| English 401 1 | 0 | | Farm Management 402... 3 | 4 | |
| Public Speaking | | | Farm Management | | |
| Textile Engineering 413... 1 | 2 | | Rural Social Science 402.. 3 | 0 | |
| Cotton Classing | | | Rural Sociology | | |
| Vocational Teaching 401... 3 | 0 | | Vocational Teaching 402.. 2 | 2 | |
| Methods of Teaching Agr. | | | Adm. of H. S. Agriculture | | |
| Vocational Teaching 409... 3 | 0 | | *Elective 8 | | |
| Supervised Teaching | | | | | |
| *Elective 8 | | | | | |
| | 19 | 2 | | 17 | 6 |

*To be approved by the Professor of Vocational Teaching.

XIV.—COURSE IN AGRICULTURAL ADMINISTRATION.**FRESHMAN YEAR.**

Same as for Course in Agriculture. See page 104.

SOPHOMORE YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|------------------------------|-----------------|-----|-----------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Biology 201 | 1 | 4 | Biology 202 | 1 | 4 |
| Zoology | | | Zoology | | |
| Chemistry 209 | 3 | 2 | Economics 202 | 2 | 0 |
| General Geology | | | Business Law | | |
| English 203 | 2 | 0 | English 204 | 2 | 0 |
| Composition | | | Composition | | |
| History 207 | 3 | 0 | History 208 | 3 | 0 |
| Europe Since 1815 | | | Industrial History of U. S. | | |
| Horticulture 201 | 3 | 2 | Mathematics 212 | 3 | 0 |
| Plant Prop. and Orchardng | | | Trigonometry | | |
| Mathematics 211 | 3 | 0 | Mil. Sci. 202, 204 or 208.. | 1 | 2 |
| Algebra | | | Vocational Teaching 202.. | 3 | 0 |
| Mil. Sci. 201, 203 or 207... | 1 | 2 | Psychology | | |
| | | | *Elective | 3 | |
| | 16 | 10 | | 18 | 6 |

*To be chosen from the following.

| | | | | | |
|----------------------------|---|---|------------------------|---|---|
| Agricultural Eng. 202..... | 2 | 2 | Horticulture 202 | 2 | 2 |
| Farm Machinery | | | Vegetable Gardening | | |
| Animal Husbandry 202 | 2 | 2 | | | |
| Judging Breed Types | | | | | |

JUNIOR YEAR.

| | | | | | |
|-------------------------|----|---|----------------------------|----|---|
| Agronomy 301 | 4 | 2 | Agronomy 302 | 4 | 2 |
| Soils | | | Farm Crops | | |
| Economics 305 | 3 | 0 | Economics 308 | 2 | 4 |
| Principles of Economics | | | Principles of Accounting | | |
| Economics 307 | 1 | 4 | Economics 310 | 3 | 0 |
| Elements of Accounting | | | Marketing | | |
| English 301 | 1 | 0 | English 304 | 2 | 0 |
| Argumentation | | | Argumentation | | |
| History 305 | 3 | 0 | History 312 | 3 | 0 |
| Citizenship | | | Latin-American | | |
| *Elective | 6 | | Rural Social Science 302.. | 3 | 0 |
| | | | Rural Economics | | |
| | 18 | 6 | *Elective | 3 | |
| | | | | 20 | 6 |

SENIOR YEAR.

| | | | | | |
|---------------------------------|----|---|----------------------------|----|---|
| Economics 405 | 3 | 0 | Economics 408 | 3 | 0 |
| Statistics | | | Corporations | | |
| Economics 411 | 3 | 0 | English 404 | 3 | 0 |
| Money and Banking | | | Public Speaking | | |
| English 401 | 1 | 0 | Farm Management 402.... | 3 | 4 |
| Public Speaking | | | Farm Management | | |
| Rural Social Science 403... | 3 | 0 | Rural Social Science 402.. | 3 | 0 |
| Agricultural Marketing Problems | | | Rural Sociology | | |
| *Elective | 9 | | Rural Social Science 404.. | 3 | 0 |
| | | | Agricultural Organization | | |
| | 19 | 0 | *Elective | 6 | |
| | | | | 21 | 4 |

C.—TWO-YEAR COURSE IN AGRICULTURE.

First Year.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|------------------------------|-----------------|-----|---------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Agricultural Eng. 201..... | 2 | 2 | Animal Husbandry 102... | 0 | 4 |
| Farm Machinery | | | Market Types | | |
| Animal Husbandry 101..... | 0 | 4 | Agronomy 28 | 3 | 2 |
| Market Types | | | Soils | | |
| Agronomy 101 | 3 | 2 | English 32 | 3 | 0 |
| Crop Production | | | Practical Composition | | |
| Dairy Husbandry 103..... | 3 | 2 | Entomology 202 | 2 | 2 |
| Dairying | | | General | | |
| English 31 | 3 | 0 | Horticulture 202 | 2 | 2 |
| Practical Composition | | | Vegetable Gardening | | |
| Horticulture 21 | 2 | 2 | Military Science 12..... | 1 | 2 |
| Plant Culture and Propa. | | | Textile Engineering 102.. | 0 | 2 |
| Military Science 11..... | 1 | 2 | Cotton Classing | | |
| Textile Engineering 101... 0 | 2 | | | | |
| Cotton Classing | | | | | |
| | 14 | 16 | | 11 | 14 |

Second Year.

Eighteen hours from the following in addition to Military Science.

| | | | | | |
|----------------------------|---|---|------------------------------|---|---|
| Agricultural Eng. 305..... | 3 | 4 | Agricultural Eng. 302.... | 0 | 4 |
| Surveying and Drainage | | | Repair of Farm Machinery | | |
| Agricultural Eng. 203..... | 2 | 2 | Agriculture Eng. 314..... | 2 | 4 |
| Gas Engines | | | Tractors | | |
| Agricultural Eng. 409..... | 1 | 2 | Agricultural Eng. 402 | 2 | 4 |
| Farm Concrete | | | Automobiles and Motor Trucks | | |
| Animal Husbandry 55..... | 2 | 2 | Agricultural Eng. 316.... | 2 | 2 |
| Feeding | | | Irrigation | | |
| Animal Husbandry 201 | 2 | 2 | Animal Husbandry 52.... | 2 | 2 |
| Farm Poultry | | | Breeding | | |
| Dairy Husbandry 53..... | 2 | 2 | Animal Husbandry 58.... | 2 | 2 |
| Farm Dairying | | | Live Stock Management | | |
| English 103 | 3 | 0 | Animal Husbandry 202... 2 | 2 | 2 |
| Rhetoric and Composition | | | Breed Types | | |
| Forestry 301 | 2 | 2 | English 104 | 3 | 0 |
| Principles of Forestry | | | Rhetoric and Composition | | |
| Horticulture 303 | 3 | 2 | Entomology 304 | 2 | 2 |
| Principles of Fruit Prod. | | | Apiculture | | |
| Military Science 51 | 1 | 2 | Farm Management 52.... | 2 | 4 |
| | | | El. Farm Management | | |
| | | | Forestry 302 | 2 | 2 |
| | | | Silviculture | | |
| | | | Horticulture 304 | 2 | 4 |
| | | | Nut Culture | | |
| | | | Military Science 52..... | 1 | 2 |
| | | | Veterinary Anatomy 52... 3 | 2 | |
| | | | Animal Diseases | | |

M.—TWO-YEAR COURSE IN AGRICULTURAL ENGINEERING.**First Year.**

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|----------------------------|-----------------|-----|---------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Agricultural Eng. 31..... | 3 | 0 | Agricultural Eng. 32 | 3 | 0 |
| Shop Computations | | | Shop Computations | | |
| Agricultural Eng. 201..... | 2 | 2 | Agricultural Eng. 206.... | 2 | 4 |
| Farm Machinery | | | Gas Engines | | |
| Agricultural Eng. 409..... | 1 | 2 | Agronomy 28 | 3 | 2 |
| Farm Concrete | | | Soils | | |
| Drawing 15 | 0 | 2 | Drawing 16 | 0 | 2 |
| Mechanical | | | Mechanical | | |
| English 31 | 3 | 0 | English 32 | 3 | 0 |
| Practical Composition. | | | Practical Composition | | |
| Mechanical Eng. 103..... | 0 | 3 | Mechanical Eng. 104.... | 0 | 3 |
| Woodwork | | | Forging | | |
| Military Science 11..... | 1 | 2 | Military Science 12..... | 1 | 2 |
| Physics 111 | 2 | 2 | Physics 112 | 2 | 2 |
| Agricultural | | | Agricultural | | |
| | 12 | 13 | | 14 | 15 |

Second Year.

| | | | | | |
|----------------------------|----|----|------------------------------|----|----|
| Agricultural Eng. 305..... | 3 | 4 | Agricultural Eng. 302.... | 0 | 4 |
| Surveying and Drainage | | | Repair of Farm Machinery | | |
| Agricultural Eng. 413..... | 2 | 4 | Agricultural Eng. 402.... | 2 | 4 |
| Farm Buildings | | | Automobiles and Motor Trucks | | |
| Agricultural Eng. 317..... | 2 | 4 | Agricultural Eng. 414.... | 0 | 4 |
| Tractors | | | Farm Buildings | | |
| Military Science 51..... | 1 | 0 | Military Science 52..... | 1 | 0 |
| *Elective | 6 | | *Elective | 9 | |
| | 14 | 14 | | 12 | 12 |

*To be chosen from the following:

Course "C."

Course "C."

COURSES IN ENGINEERING.

(The curricula for all Engineering courses are identical in the Freshman year.)

FRESHMAN YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--|-----------------|----------|--|-----------------|----------|
| | Th. | Pr. | | Th. | Pr. |
| Chemistry 101 Inorganic | 3 | 3 | Chemistry 102 Inorganic | 3 | 3 |
| Drawing 101 Mechanical | 0 | 3 | Drawing 102 Mechanical | 0 | 3 |
| Drawing 103 Descriptive Geometry | 2 | 0 | Drawing 104 Descriptive Geometry | 2 | 0 |
| Drawing 105 Freehand | 0 | 1 | Drawing 106 Freehand | 0 | 1 |
| English 103 Rhetoric and Composition | 3 | 0 | English 104 Rhetoric and Composition | 3 | 0 |
| Mathematics 101 Algebra | 3 | 0 | Mathematics 102 Algebra | 3 | 0 |
| Mathematics 103 Trigonometry | 3 | 0 | Mathematics 104 Analytics | 3 | 0 |
| Mechanical Engineering 101 Elementary Mechanics | 1 | 0 | Mechanical Eng. 102..... Elementary Mechanics | 1 | 0 |
| Mechanical Engineering 103 Woodwork | 0 | 3 | Mechanical Eng. 104..... Forging | 0 | 3 |
| Mil. Sci. 101, 103 or 105... 1 | 2 | | Mil. Sci. 102, 104 or 106.. 1 | 2 | |
| | <hr/> 16 | <hr/> 12 | | <hr/> 16 | <hr/> 12 |

XV.—COURSE IN AGRICULTURAL ENGINEERING.**FRESHMAN YEAR.**

See page 117.

SOPHOMORE YEAR.

| Second Term. | Hours per week | | First Term. | Hours per week | |
|------------------------------|----------------|-----|----------------------------|----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Agricultural Eng. 211..... | 2 | 4 | Agricultural Eng. 214..... | 2 | 4 |
| Gas Engines | | | Tractors | | |
| Animal Husbandry 211..... | 0 | 4 | Animal Husbandry 212... | 0 | 4 |
| Market Types | | | Market Types | | |
| English 203 | 2 | 0 | Civil Engineering 212 | 0 | 4 |
| Composition | | | Surveying | | |
| Mathematics 205 | 5 | 0 | Civil Engineering 204 | 4 | 0 |
| Calculus | | | Analytic Mechanics | | |
| Mechanical Engineering 209. | 0 | 3 | English 204 | 2 | 0 |
| Machine Shop | | | Composition | | |
| Military Science 201 or 203. | 1 | 2 | Military Sci. 202 or 204. | 1 | 2 |
| Physics 203 | 3 | 3 | Physics 204 | 1 | 2 |
| General | | | General | | |
| | 13 | 16 | | 13 | 16 |

SUMMER WORK.

Civil Engineering 300, Field Practice, three weeks.

JUNIOR YEAR.

| | | | | | |
|---------------------------|----|---|-----------------------------------|----|----|
| Agronomy 301 | 4 | 2 | Agricultural Eng. 320 | 2 | 4 |
| Soils | | | Farm Machinery | | |
| Chemistry 319 | 3 | 2 | Agronomy 302 | 4 | 2 |
| General Geology | | | Farm Crops | | |
| Civil Eng. 327 | 3 | 0 | Civil Eng. 328 | 0 | 2 |
| Mechanics of Materials | | | Mechanics of Materials Laboratory | | |
| English 303 | 2 | 0 | English 302 | 1 | 0 |
| Argumentation | | | Argumentation | | |
| Electrical Eng. 305 | 3 | 2 | History 306 | 3 | 0 |
| Electrical Machinery | | | Citizenship | | |
| *Elective | 3 | 0 | Horticulture 312 | 2 | 2 |
| | | | Vegetable Gardening | | |
| | | | *Elective | 3 | 0 |
| | 18 | 6 | | 15 | 10 |

SENIOR YEAR.

| | | | | | |
|-----------------------------|----|---|------------------------------|----|----|
| Agricultural Eng. 415 | 2 | 2 | Agricultural Eng. 410 | 2 | 0 |
| Drainage | | | Irrigation | | |
| Agricultural Eng. 413 | 2 | 4 | Agricultural Eng. 418 | 3 | 2 |
| Farm Buildings | | | Designing of Farm Structures | | |
| Civil Engineering 441 | 3 | 2 | Agricultural Eng. 402 | 2 | 4 |
| Hydraulics | | | Automobiles and Trucks | | |
| Civil Engineering 407 | 3 | 0 | Civil Engineering 410 | 2 | 0 |
| Roads and Pavements | | | Contracts and Specifications | | |
| Economics 403 | 3 | 0 | English 402 | 1 | 0 |
| Fundamental Principles | | | Public Speaking | | |
| English 401 | 1 | 0 | Farm Management 402 ... | 3 | 4 |
| Public Speaking | | | Farm Management | | |
| *Elective | 3 | 0 | *Elective | 3 | 20 |
| | 17 | 8 | | 16 | 10 |

*To be approved by the head of the Agricultural Engineering Department.

IX.—COURSES IN ARCHITECTURE.

GROUP 1. GENERAL COURSE.

FRESHMAN YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|------------------------------|-----------------|-----------|-----------------------------|-----------------|-----------|
| | Th. | Pr. | | Th. | Pr. |
| Architecture 101 | 0 | 3 | Architecture 102 | 0 | 6 |
| Architectural Drawing | | | Elements | | |
| Chemistry 101 | 3 | 3 | Chemistry 102 | 3 | 3 |
| Inorganic | | | Inorganic | | |
| Drawing 101 | 0 | 3 | Architecture 104 | 2 | 0 |
| Mechanical | | | Shadows and Perspective | | |
| Drawing 103 | 2 | 0 | Drawing 110 | 0 | 3 |
| Descriptive Geometry | | | Freehand | | |
| Drawing 109 | 0 | 3 | English 104 | 3 | 0 |
| Freehand | | | Rhetoric and Composition | | |
| English 103 | 3 | 0 | Mathematics 102 | 3 | 0 |
| Rhetoric and Composition | | | Algebra | | |
| Mathematics 101 | 3 | 0 | Mathematics 104 | 3 | 0 |
| Algebra | | | Analytics | | |
| Mathematics 103 | 3 | 0 | Mil. Sci. 102, 104 or 106.. | 1 | 2 |
| Trigonometry | | | | | |
| Mil. Sci. 101, 103 or 105... | 1 | 2 | | | |
| | <u>15</u> | <u>14</u> | | <u>15</u> | <u>14</u> |

SOPHOMORE YEAR.

| | | | | | |
|---------------------------|-----------|-----------|-----------------------------|-----------|-----------|
| Architecture 201 | 0 | 10 | Architecture 202 | 0 | 10 |
| Design | | | Design | | |
| Architecture 209 | 1 | 0 | Architecture 210 | 3 | 0 |
| Principles of Design | | | Masonry and Carpentry | | |
| Architecture 207 | 2 | 0 | Architecture 208 | 2 | 0 |
| History | | | History | | |
| Architecture 211 | 4 | 2 | Architecture 212 | 1 | 3 |
| Materials and Graphics | | | Building Construction | | |
| Drawing 209 | 0 | 4 | Drawing 210 | 0 | 4 |
| Freehand | | | Freehand | | |
| English 203 | 2 | 0 | English 204 | 2 | 0 |
| Composition | | | Composition | | |
| Physics 207 | 3 | 2 | Physics 208 | 3 | 2 |
| General | | | General | | |
| Mil. Sci. 201 or 203..... | 1 | 2 | Military Sci. 203 or 204... | 1 | 2 |
| | <u>13</u> | <u>20</u> | | <u>12</u> | <u>21</u> |

JUNIOR YEAR.

| | | | | | |
|--------------------------|----------|-----------|-------------------------|----------|-----------|
| Architecture 301 | 0 | 15 | Architecture 302 | 0 | 15 |
| Design | | | Design | | |
| Architecture 321 | 1 | 4 | Architecture 322 | 1 | 4 |
| Building Construction | | | Building Construction | | |
| Architecture 309 | 2 | 0 | Architecture 316 | 3 | 0 |
| History | | | Mechanical Equipment | | |
| Drawing 309 | 0 | 4 | Drawing 310 | 0 | 4 |
| Freehand | | | Water Color | | |
| English 301 | 2 | 0 | English 302 | 1 | 0 |
| Argumentation | | | Argumentation | | |
| Modern Language 311..... | 3 | 0 | Modern Language 312 ... | 3 | 0 |
| French | | | French | | |
| | <u>8</u> | <u>23</u> | | <u>8</u> | <u>23</u> |

And one subject each term from List B, page 130, or History 306
Citizenship; (Second Term).

AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS.

SENIOR YEAR.

| First Term. | | | Second Term. | | |
|------------------------|-------|-------|-----------------------|-------|-------|
| | | | | | |
| Hours per | | | Hours per | | |
| week | | | week | | |
| Th. Pr. | | | Th. Pr. | | |
| Architecture 401 | 0 | 18 | Architecture 402 | 0 | 20 |
| Design | | | Design | | |
| Architecture 407 | 2 | 0 | Architecture 414 | 1 | 0 |
| History of Art | | | Modern Architecture | | |
| Drawing 409 | 0 | 4 | Architecture 406 | 2 | 0 |
| Rendering | | | Professional Practice | | |
| Economics 403 | 3 | 0 | Drawing 410 | 0 | 4 |
| Fundamental Principles | | | Rendering | | |
| English 401 | 1 | 0 | English 402 | 1 | 0 |
| Public Speaking | | | Public Speaking | | |
| Modern Language 421 | 3 | 0 | Modern Language 422 | 3 | 0 |
| French | | | French | | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 9 | 22 | | 7 | 24 |

And one subject each term from List C, page 130, or Economics 408,
Business Organization (Second Term).

ARCHITECTURE

121

GROUP 2. STRUCTURAL COURSE.

FRESHMAN YEAR.

See page 119.

SOPHOMORE YEAR.

| First Term. | | | Hours per week. | | Second Term. | | | Hours per week. | |
|--------------------------|-------|---|-----------------|-----|--------------------------|-------|---|-----------------|-----|
| | | | Th. | Pr. | | | | Th. | Pr. |
| Architecture 215 | ..... | 0 | 10 | | Architecture 214 | ..... | 0 | 8 | |
| Design | | | | | Design | | | | |
| Architecture 209 | ..... | 1 | 0 | | Architecture 210 | ..... | 3 | 0 | |
| Principles of Design | | | | | Masonry and Carpentry | | | | |
| Architecture 207 | ..... | 2 | 0 | | Architecture 208 | ..... | 2 | 0 | |
| History | | | | | History | | | | |
| Drawing 209 | ..... | 0 | 4 | | Civil Engineering 204 | .... | 4 | 0 | |
| Freehand | | | | | Analytic Mechanics | | | | |
| Mathematics 205 | ..... | 5 | 0 | | Drawing 210 | ..... | 0 | 4 | |
| Calculus | | | | | Freehand | | | | |
| Physics 207 | ..... | 3 | 2 | | English 204 | ..... | 2 | 0 | |
| General | | | | | Composition | | | | |
| English 203 | ..... | 2 | 0 | | Military Sci. 203 or 204 | ... | 1 | 2 | |
| Composition | | | | | Physics 208 | ..... | 3 | 2 | |
| Military Sci. 201 or 203 | ... | 1 | 2 | | General | | | | |
| | | | | | | | | | |
| | | | 14 | 18 | | | | 15 | 16 |

JUNIOR YEAR.

| | | | | | | | | | |
|----------------------------|-------|---|----|----|-----------------------|-------|---|----|----|
| Architecture 311 | ..... | 0 | 10 | | Architecture 312 | ..... | 0 | 12 | |
| Design | | | | | Design | | | | |
| Architecture 309 | ..... | 2 | 0 | | Architecture 316 | ..... | 3 | 0 | |
| History | | | | | Mechanical Equipment | | | | |
| Civil Engineering 307 | .... | 4 | 2 | | Civil Engineering 330 | .... | 2 | 3 | |
| Strength of Materials | | | | | Framed Structures | | | | |
| Drawing 309 | ..... | 0 | 4 | | Civil Engineering 326 | .... | 1 | 3 | |
| Freehand | | | | | Surveying | | | | |
| English 303 | ..... | 2 | 0 | | Drawing 310 | ..... | 0 | 4 | |
| Argumentation | | | | | Water Color | | | | |
| Electrical Engineering 305 | .. | 3 | 2 | | English 302 | ..... | 1 | 0 | |
| Electrical Machinery | | | | | Argumentation | | | | |
| | | | | | | | | | |
| | | | 11 | 18 | | | | 7 | 22 |

And one subject each term from List B, page 130, or History 306, Citizenship, (Second Term).

SENIOR YEAR.

| | | | | | | | | | |
|------------------------|-------|---|----|----|----------------------------|-------|---|----|----|
| Architecture 411 | ..... | 0 | 14 | | Architecture 412 | ..... | 0 | 14 | |
| Structural Design | | | | | Structural Design | | | | |
| Architecture 407 | ..... | 2 | 0 | | Architecture 414 | ..... | 1 | 0 | |
| History of Art | | | | | Modern Architecture | | | | |
| Civil Engineering 413 | .... | 2 | 0 | | Architecture 406 | ..... | 2 | 0 | |
| El. of Reinf. Concrete | | | | | Professional Practice | | | | |
| Chemistry 425 | ..... | 2 | 2 | | Civil Engineering 414 | .... | 2 | 3 | |
| Engineering Geology | | | | | Reinforced Concrete Design | | | | |
| English 401 | ..... | 1 | 0 | | Electrical Engineering 436 | 3 | 0 | | |
| Public Speaking | | | | | Wiring and Lighting | | | | |
| Economics 403 | ..... | 3 | 0 | | English 402 | ..... | 1 | 0 | |
| Fundamental Principles | | | | | Public Speaking | | | | |
| | | | | | | | | | |
| | | | 10 | 16 | | | | 9 | 17 |

And one subject from the following:

*List B.

*List B.

Economics 408 3 0

*For List B, see page 130.

VIII.—COURSE IN CHEMICAL ENGINEERING.

FRESHMAN YEAR.

See page 117.

SOPHOMORE YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|------------------------------|-----------------|-----|------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Chemistry 205 | 2 | 8 | Chemical Engineering 202.. | 2 | 8 |
| Qualitative Analysis | | | Quantitative Analysis | | |
| Drawing 201 | 0 | 3 | Drawing 202 | 0 | 3 |
| Mechanical | | | Mechanical | | |
| English 203 | 2 | 0 | English 204 | 2 | 0 |
| Composition | | | Composition | | |
| Mathematics 205 | 5 | 0 | Mechanical Engineering 206 | 4 | 3 |
| Calculus | | | Elementary Steam Engineering | | |
| Military Science 201 or 203. | 1 | 2 | Military Science 202 or 204 | 1 | 2 |
| Physics 203 | 3 | 3 | Physics 204 | 3 | 3 |
| General | | | General | | |
| | 13 | 16 | | 12 | 19 |

JUNIOR YEAR.

| | | | | | |
|--------------------------------|----|----|--------------------------|----|----|
| Chemical Engineering 301.. | 2 | 9 | Chemical Engineering 302 | 2 | 6 |
| Advanced Quantitative Analysis | | | Technical Analysis | | |
| Chemistry 301 | 3 | 4 | Chemistry 302 | 3 | 4 |
| Organic | | | Organic | | |
| Electrical Engineering 305. | 3 | 2 | Chemistry 306 | 3 | 3 |
| Electrical Machinery | | | General Geology | | |
| English 303 | 2 | 0 | English 302 | 1 | 0 |
| Argumentation | | | Argumentation | | |
| | 10 | 15 | History 306 | 3 | 0 |
| | | | Citizenship | | |
| | | | | 12 | 13 |

And one subject from the following:

| | | | | | |
|----------------------------|---|---|----------------------------|---|---|
| Civil Engineering 311.... | 3 | 2 | Civil Engineering 326.... | 1 | 3 |
| Hydraulics | | | Plane Surveying | | |
| *One subject from List B.. | 3 | 0 | *One subject from List B.. | 3 | 0 |

SENIOR YEAR.

| | | | | | |
|----------------------------|----|---|---------------------------|---|----|
| Chemical Engineering 411.. | 3 | 4 | Chemical Engineering 412. | 3 | 8 |
| Physical Chemistry | | | Industrial Chemistry | | |
| Chemical Engineering 413.. | 3 | 4 | Chemical Engineering 414. | 3 | 4 |
| Chemical Technology | | | Sanitary Chemistry | | |
| Economics 403 | 3 | 0 | Chemistry 436 | 1 | 0 |
| Fundamental Principles | | | History of Chemistry | | |
| English 401 | 1 | 0 | English 402 | 1 | 0 |
| Public Speaking | | | Public Speaking | | |
| | 10 | 8 | | 8 | 12 |

And seven hours each term from the following:

| | | | | | |
|----------------------------|---|---|----------------------------|---|---|
| Technical Subjects | 4 | 0 | Technical Subjects | 4 | 0 |
| *One subject from List C.. | 3 | 0 | *One subject from List C.. | 3 | 0 |

Notes.—1. The choice of technical subjects is subject to the approval of the head of the department of Chemistry and Chemical Engineering.

2. To those students desiring to do so, an opportunity will be given to specialize in the study of the cotton seed oil industry or in petroleum technology.

*For Lists B and C, see page 130.

IV.—COURSE IN CIVIL ENGINEERING.

FRESHMAN YEAR.

See page 117.

SOPHOMORE YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|------------------------------|-----------------|-----|-----------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Civil Engineering 201..... | 3 | 5 | Civil Engineering 202..... | 2 | 3 |
| Surveying | | | Railroad Engineering | | |
| Drawing 201a | 0 | 2 | Civil Engineering 204..... | 4 | 0 |
| Mechanical | | | Analytic Mechanics | | |
| English 203 | 2 | 0 | Drawing 202a | 0 | 2 |
| Composition | | | Mechanical | | |
| Mathematics 203 | 5 | 0 | English 204 | 2 | 0 |
| Calculus | | | Composition | | |
| Mechanical Engr. 205..... | 2 | 0 | Mathematics 204 | 5 | 0 |
| Elementary Steam Engineering | | | Calculus | | |
| Military Science 201 or 203. | 1 | 2 | Military Science 202 or 204 | 1 | 2 |
| Physics 203 | 3 | 3 | Physics 204 | 3 | 3 |
| General | | | General | | |
| | 16 | 12 | | 17 | 10 |

SUMMER WORK.

Civil Engineering 300, Field Practice, three weeks.

JUNIOR YEAR.

| | | | | | |
|-----------------------------|----|---|---------------------------|----|---|
| Civil Engineering 303..... | 2 | 3 | Chemistry 306 | 3 | 3 |
| Railroad Engineering | | | General Geology | | |
| Civil Engineering 307 | 4 | 2 | Civil Engineering 304.... | 2 | 0 |
| Strength of Materials | | | Railroad Construction | | |
| Civil Engineering 311..... | 3 | 2 | Civil Engineering 306.... | 3 | 0 |
| Hydraulics | | | Masonry | | |
| Electrical Engineering 305. | 3 | 2 | Civil Engineering 320.... | 0 | 2 |
| Electrical Machinery | | | Topographic Drawing | | |
| English 303 | 2 | 0 | Civil Engineering 330.... | 2 | 3 |
| Argumentation | | | Framed Structures | | |
| | | | English 302 | 1 | 0 |
| | | | Argumentation | | |
| | | | History 306 | 3 | 0 |
| | | | Citizenship | | |
| | 14 | 9 | | 14 | 8 |

*And one subject each term from List B.

SUMMER WORK.

Civil Engineering 400. Field Practice, three weeks.

*For List B, see page 130.

GROUP 1. GENERAL CIVIL ENGINEERING.

SENIOR YEAR.

| First Term. | Hours per week. | | * Second Term. | Hours per week. | |
|----------------------------|-----------------|-----|------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Civil Engineering 401..... | 0 | 4 | Civil Engineering 404..... | 0 | 6 |
| Railroad Drafting | | | Bridge Design | | |
| Civil Engineering 403..... | 3 | 6 | Civil Engineering 406..... | 0 | 3 |
| Roofs and Bridges | | | Materials of Construction | | |
| Civil Engineering 407..... | 3 | 0 | Civil Engineering 410..... | 2 | 0 |
| Roads and Pavements | | | Contracts and Specifications | | |
| Civil Engineering 413..... | 2 | 0 | Civil Engineering 414..... | 2 | 3 |
| El. of Reinforced Concrete | | | Reinforced Concrete Design | | |
| Economics 403 | 3 | 0 | Civil Engineering 416..... | 2 | 0 |
| Fundamental Principles | | | Masonry | | |
| English 401 | 1 | 0 | Civil Engineering 438..... | 3 | 0 |
| Public Speaking | | | Water Supply and Sewerage | | |
| | | | Civil Engineering 434..... | 2 | 0 |
| | | | Irrigation and Drainage | | |
| | | | English 402 | 1 | 0 |
| | | | Public Speaking | | |
| | 12 | 10 | | 12 | 12 |

And one subject from the following:

| | | | | | |
|----------------------------|---|---|----------------------------|---|---|
| Chemistry 425 | 2 | 2 | Biology 418 | 2 | 4 |
| Engineering Geology | | | Water Bacteriology | | |
| Civil Engineering 429..... | 3 | 0 | Economics 408 | 3 | 0 |
| Highway Laws and Economics | | | Business Organization | | |
| *One subject from List C.. | 3 | 0 | *One subject from List C.. | 3 | 0 |

GROUP 2. HIGHWAY AND MUNICIPAL ENGINEERING.

| | | | | | |
|------------------------------|----|----|------------------------------|----|----|
| Civil Engineering 401..... | 0 | 4 | Biology 418 | 2 | 4 |
| Railroad Drafting | | | Bacteriology | | |
| Civil Engineering 413..... | 2 | 0 | Civil Engineering 410.... | 2 | 0 |
| El. of Reinforced Concrete | | | Contracts and Specifications | | |
| Civil Engineering 415..... | 5 | 0 | Civil Engineering 416.... | 2 | 0 |
| High. Const. and Maintenance | | | Masonry | | |
| Civil Engineering 417..... | 1 | 3 | Civil Engineering 418.... | 1 | 3 |
| Highway Materials | | | Highway Materials | | |
| Civil Engineering 423..... | 1 | 3 | Civil Engineering 426.... | 1 | 5 |
| Bridge Design | | | Highway Bridges and Culverts | | |
| Economics 403 | 3 | 0 | Civil Engineering 438.... | 3 | 0 |
| Fundamental Principles | | | Water Supply and Sewerage | | |
| English 401 | 1 | 0 | English 402 | 1 | 0 |
| Public Speaking | | | Public Speaking | | |
| | 13 | 10 | | 12 | 12 |

And one subject from the following:

| | | | | |
|----------------------------|---|---|-----------------------------|---|
| Chemistry 425 | 2 | 2 | Chemical Engineering 410. 1 | 3 |
| Engineering Geology | | | Water Treatment | |
| Civil Engineering 429..... | 3 | 0 | Economics 408 | 3 |
| Highway Laws and Economics | | | Business Organization | |
| *One subject from List C.. | 3 | 0 | *One subject from List C.. | 3 |

*For List C, see page 130.

V.—COURSE IN ELECTRICAL ENGINEERING.

FRESHMAN YEAR.

See page 117.

SOPHOMORE YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|------------------------------|-----------------|-----|-----------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Drawing 201a | 0 | 2 | Civil Engineering 206.... | 1 | 3 |
| Mechanical | | | Surveying | | |
| Electrical Engineering 201. | 4 | 4 | Drawing 202a | 0 | 2 |
| Electricity and Magnetism | | | Mechanical | | |
| English 203 | 2 | 0 | Electrical Engineering 202. | 2 | 4 |
| Composition | | | Elementary | | |
| Mathematics 203 | 5 | 0 | English 204 | 2 | 0 |
| Calculus | | | Composition | | |
| Mechanical Eng. 201 | 0 | 3 | Mathematics 204 | 5 | 0 |
| Pattern Making and Foundry | | | Calculus | | |
| Mil. Sci. 201, 203 or 205... | 1 | 2 | Mechanical Eng. 214 | 0 | 3 |
| Physics 207 | 3 | 2 | Machine Shop | | |
| General | | | Mil. Sci. 202, 204 or 206.. | 1 | 2 |
| | | | Physics 208 | 3 | 2 |
| | | | General | | |

15 13

JUNIOR YEAR.

14 16

| | | | | | |
|-----------------------------|---|---|-----------------------------------|---|---|
| Civil Engineering 327..... | 3 | 0 | Civil Engineering 328.... | 0 | 2 |
| Mechanics of Materials | | | Mechanics of Materials Laboratory | | |
| Electrical Engineering 301. | 4 | 6 | Electrical Engineering 302. | 4 | 4 |
| Direct Currents | | | Alternating Currents | | |
| English 301 | 1 | 0 | Electrical Engineering 304. | 0 | 4 |
| Argumentation | | | D. C. Design | | |
| Mechanical Eng. 307 | 2 | 2 | English 302 | 1 | 0 |
| Kinematics | | | Argumentation | | |
| Mechanical Eng. 317..... | 4 | 0 | History 306 | 3 | 0 |
| Engineering Mechanics | | | Citizenship | | |
| | | | Mechanical Eng. 302 | 5 | 0 |
| | | | Steam Engines and Boilers | | |

14 8

13 10

And one subject from the following:

| | | | | | |
|-----------------------------|---|---|-----------------------------|---|---|
| Electrical Engineering 309. | 2 | 0 | Electrical Engineering 310. | 2 | 2 |
| Communication Engineering | | | Communication Engineering | | |
| *One subject from List B.. | 3 | 0 | *One subject from List B.. | 3 | 0 |
| Military Science 309a..... | 1 | 2 | Military Science 310a.... | 0 | 2 |

*For List B, see page 130.

SENIOR YEAR.

| | | | | | |
|-----------------------------|---|---|------------------------------|---|---|
| Economics 403 | 3 | 0 | Civil Engineering 410.... | 2 | 0 |
| Fundamental Principles | | | Contracts and Specifications | | |
| Electrical Engineering 401. | 3 | 6 | Electrical Engineering 402. | 3 | 4 |
| A. C. Machinery | | | A. C. Machinery | | |
| Electrical Engineering 403. | 1 | 4 | Electrical Engineering 406. | 2 | 2 |
| Electric Machine Design | | | Power Distribution | | |
| Electrical Engineering 423. | 3 | 0 | Electrical Engineering 408. | 0 | 2 |
| Electric Railways | | | General Problems | | |
| English 401 | 1 | 0 | Electrical Engineering 428. | 2 | 0 |
| Public Speaking | | | Telephony | | |
| Mechanical Eng. 415 | 0 | 3 | Electrical Engineering 426. | 1 | 2 |
| Laboratory | | | Illumination Engineering | | |
| | | | English 402 | 1 | 0 |
| | | | Public Speaking | | |
| | | | Mechanical Eng. 416 | 0 | 3 |
| | | | Laboratory | | |

11 13

11 13

*For List B, see page 130.

First Term.

Hours per
weekHours per
week

| | Th. | Pr. | | Th. | Pr. |
|-----------------------------|-----|-----|-----------------------------|-----|-----|
| Civil Engineering 411..... | 3 | 0 | Chemistry 416 | 3 | 3 |
| Hydraulics | | | General Geology | | |
| Electrical Engineering 409. | 2 | 3 | Electrical Engineering 410. | 1 | 3 |
| Advanced Communication Eng. | | | Advanced Communication Eng. | | |
| *One subject from List C.. | 3 | 0 | *One subject from List C.. | 3 | 0 |
| Military Science 405a..... | 0 | 2 | Military Science 406a.... | 0 | 4 |

*For List C, see page 130.

Note—If Military Science 405a, 406a be chosen, it must be accompanied by Electrical Engineering 409, 410.

III.—COURSE IN MECHANICAL ENGINEERING.

FRESHMAN YEAR.

See page 117.

SOPHOMORE YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|-----------------------------|-----------------|-----|-----------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Chemistry 207 | 2 | 3 | Chemistry 208 | 1 | 4 |
| Quantitative Analysis | | | Technical Analysis | | |
| English 203 | 2 | 0 | English 204 | 2 | 0 |
| Composition | | | Composition | | |
| Mathematics 203 | 5 | 0 | Mathematics 204 | 5 | 0 |
| Calculus | | | Calculus | | |
| Mechanical Eng. 201 | 0 | 3 | Mechanical Eng. 202..... | 0 | 3 |
| Pattern Making and Foundry | | | Pattern Making and Foundry | | |
| Mechanical Eng. 207 | 2 | 2 | Mechanical Eng. 212..... | 3 | 0 |
| Kinematics | | | Engineering Mechanics | | |
| Mil. Sci. 201, 203 or 205.. | 1 | 2 | Mil. Sci. 202, 204 or 206.. | 1 | 2 |
| Physics 203 | 3 | 3 | Physics 204 | 3 | 3 |
| General | | | General | | |
| | 15 | 13 | | 15 | 12 |

JUNIOR YEAR.

| | | | | | |
|-----------------------------|----|---|--------------------------|----|----|
| Civil Engineering 305..... | 3 | 2 | Electrical Eng. 308..... | 2 | 3 |
| Mechanics of Materials | | | Electrical Machinery | | |
| Electrical Engineering 307. | 3 | 0 | English 302 | 1 | 0 |
| Electrical Machinery | | | Argumentation | | |
| English 301 | 1 | 0 | History 306 | 3 | 0 |
| Argumentation | | | Citizenship | | |
| Mechanical Eng. 319..... | 4 | 0 | Mechanical Eng. 320.... | 4 | 0 |
| Engines and Boilers | | | Thermodynamics | | |
| Mechanical Eng. 303..... | 0 | 3 | Mechanical Eng. 304.... | 0 | 4 |
| Machine Design | | | Machine Design | | |
| Mechanical Eng. 313..... | 3 | 0 | Mechanical Eng. 314.... | 3 | 0 |
| Engineering Mechanics | | | Engineering Mechanics | | |
| Mechanical Eng. 309..... | 0 | 3 | Mechanical Eng. 310.... | 0 | 3 |
| Machine Shop | | | Machine Shop | | |
| | 14 | 8 | | 13 | 10 |

And one subject from the following:

*One subject from List B.. 3 0 *One subject from List B.. 3 0

SENIOR YEAR.

Required in all groups.

| | | | | | |
|----------------------------|----|---|---------------------------|---|---|
| Chemical Engineering 407.. | 3 | 0 | Chemical Eng. 408 | 2 | 0 |
| Industrial Chemistry | | | Metallurgy | | |
| Civil Engineering 411..... | 3 | 0 | English 402 | 1 | 0 |
| Hydraulics | | | Public Speaking | | |
| Economics 403 | 3 | 0 | Mechanical Eng. 404 | 0 | 4 |
| Fundamental Principles | | | Laboratory | | |
| English 401 | 1 | 0 | Mechanical Eng. 410 | 3 | 0 |
| Public Speaking | | | Gas Engines | | |
| Mechanical Eng. 403..... | 0 | 4 | Mechanical Eng. 412 | 3 | 0 |
| Laboratory | | | History and Biography | | |
| | 10 | 4 | | 9 | 4 |

*For List B, see page 130.

GROUP 1.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|---|-----------------|----------|--|-----------------|----------|
| | Th. | Pr. | | Th. | Pr. |
| Mechanical Eng. 407 Thermodynamics | 2 | 0 | Mechanical Eng. 414 Steam Turbines | 2 | 0 |
| Mechanical Eng. 417 Power Plants and Equipment | 2 | 4 | Mechanical Eng. 418 Power Plants and Equipment | 2 | 4 |
| *Elective | 3 | | *Elective | 3 | |
| | <u>7</u> | <u>4</u> | | <u>7</u> | <u>4</u> |

GROUP 2.

| | | | | | |
|---|----------|----------|---|----------|----------|
| Mechanical Eng. 419 Industrial Engineering | 3 | 2 | Mechanical Eng. 420 Industrial Engineering | 3 | 2 |
| Mechanical Eng. 421 Methods and Management | 2 | 0 | Mechanical Eng. 422 Methods and Management | 2 | 0 |
| *Elective | 3 | | *Elective | 3 | |
| | <u>8</u> | <u>2</u> | | <u>8</u> | <u>2</u> |

GROUP 3.

| | | | | | |
|--|----------|----------|--|----------|----------|
| Mechanical Eng. 423 Transportation | 2 | 0 | Mechanical Eng. 424 Transportation | 2 | 0 |
| Mechanical Eng. 425 Railway Mech. Engineering | 2 | 4 | Mechanical Eng. 426 Railway Mech. Engineering | 2 | 4 |
| *Elective | 3 | | *Elective | 3 | |
| | <u>7</u> | <u>4</u> | | <u>7</u> | <u>4</u> |

*The student will elect one of the following, or any other approved elective

*One subject from List C.. 3 0 *One subject from List C.. 3 0

*For List C, see page 130.

VI.—COURSE IN TEXTILE ENGINEERING.

FRESHMAN YEAR.

See page 117.

SOPHOMORE YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--|-----------------|-----|--|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Drawing 201a | 0 | 2 | Chemistry 206 | 3 | 2 |
| Mechanical English 203 | 2 | 0 | Organic Civil Engineering 206.... | 1 | 3 |
| Composition Mathematics 205 | 5 | 0 | Surveying Drawing 202a | 0 | 2 |
| Calculus Mechanical Eng. 205 | 2 | 0 | Mechanical English 204 | 2 | 0 |
| Elementary Steam Engineering Mechanical Eng. 207 | 2 | 2 | Composition Military Sci. 202 or 204.. | 1 | 2 |
| Kinematics Physics 203 | 3 | 3 | General Physics 204 | 3 | 3 |
| Military Science 201 or 203. 1 | 2 | | Textile Engineering 206. 0 | 3 | |
| General Textile Engineering 207.... | 0 | 3 | Yarn Manufacture Textile Engineering 208.. | 3 | 0 |
| Weaving | | | | | |
| | 15 | 12 | | 13 | 15 |

JUNIOR YEAR.

| | | | | | |
|---|----|----|--|----|----|
| Electrical Eng. 307 | 3 | 0 | Chemistry 308 | 1 | 4 |
| Electrical Machinery English 303 | 2 | 0 | Dyeing Electrical Eng. 308 | 2 | 3 |
| Argumentation Mechanical Eng. 309.... | 0 | 3 | Electrical Machinery English 302 | 1 | 0 |
| Machine Shop Textile Engineering 301... 4 | 3 | | Argumentation History 306 | 3 | 0 |
| Yarn Manufacture Textile Engineering 303... 0 | 3 | | Citizenship Textile Engineering 302.. | 3 | 2 |
| Fabric Design Textile Engineering 305... 3 | 3 | | Yarn Manufacture Textile Engineering 304.. | 0 | 3 |
| Weaving | | | Fabric Design Textile Engineering 306.. | 0 | 4 |
| | 12 | 12 | Weaving | | |
| | | | | 10 | 16 |

*And one subject each term from List B.

SENIOR YEAR.

| | | | | | |
|---|----|----|--|----|----|
| Chemistry 407 | 2 | 3 | Chemistry 408 | 1 | 4 |
| Quantitative Analysis Economics 403 | 3 | 0 | Technical Analysis English 402 | 1 | 0 |
| Fundamental Principles English 401 | 1 | 0 | Public Speaking Textile Engineering 402.. | 3 | 4 |
| Public Speaking Textile Engineering 401... 1 | 2. | | Yarn Manufacture Textile Engineering 404.. | 1 | 0 |
| Yarn Manufacture Textile Engineering 405... 3 | 0 | | Fabric Analysis Textile Engineering 408.. | 0 | 4 |
| Sizing Textile Engineering 407... 2 | 2 | | Weaving Textile Engineering 410.. | 3 | 0 |
| Weaving Textile Engineering 413.... 0 | 2 | | Mill Management Textile Engineering 412.. | 1 | 0 |
| Cotton Classing Textile Engineering 415... 0 | 3 | | Magazine Review Textile Engineering 416.. | 0 | 3 |
| Fabric Design | | | Fabric Design | | |
| | 12 | 12 | | 10 | 15 |

*And one subject each term from List C.

*For List B, see page 130.

LIST B.

Junior electives common to all engineering courses.

| First Term. | | Hours per week. | | Second Term. | | Hours per week. | |
|------------------------------|-------|-----------------|-----|-----------------------------|-------|-----------------|-----|
| | | Th. | Pr. | | | Th. | Pr. |
| English 321 | ..... | 3 | 0 | English 322 | ..... | 3 | 0 |
| Literature | | | | Literature | | | |
| History 307 | ..... | 3 | 0 | History 308 | ..... | 3 | 0 |
| Europe since 1815 | | | | Industrial History | | | |
| Mil. Sci. 301, 303 or 305... | 3 | 2 | | Mil. Sci. 302, 304 or 306.. | 3 | 2 | |
| Modern Lang. 311, 313, 315. | 3 | 0 | | Modern Lang. 312, 314, 316 | 3 | 0 | |
| French, German or Spanish | | | | French, German or Spanish | | | |

LIST C.

Senior electives common to all engineering courses.

| | | | | | | | |
|------------------------------|-------|---|---|-----------------------------|-------|---|---|
| English 403 | ..... | 3 | 0 | English 404 | ..... | 3 | 0 |
| Public Speaking | | | | Public Speaking | | | |
| Mil. Sci. 401, 403 or 405... | 3 | 2 | | Mil. Sci. 402, 404 or 406.. | 3 | 2 | |
| Modern Lang. 421, 423, 425. | 3 | 0 | | Modern Lang. 422, 424, 426 | 3 | 0 | |
| French, German or Spanish | | | | French, German or Spanish | | | |

XIII.—COURSE IN INDUSTRIAL EDUCATION.

FRESHMAN YEAR.

See page 117.

SOPHOMORE YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|------------------------------|-----------------|-----|------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Chemical Engineering 201.. | 3 | 0 | Architecture 206 | 2 | 0 |
| Industrial Chemistry | | | Carpentry | | |
| Drawing 201 | 0 | 3 | Chemical Eng. 208 | 2 | 0 |
| Mechanical | | | Metallurgy | | |
| Drawing 203 | 0 | 3 | Drawing 202 | 0 | 3 |
| Color Harmony and Design | | | Mechanical | | |
| English 203 | 2 | 0 | Electrical Eng. 206 | 2 | 2 |
| Composition | | | Motors, Wiring, Lighting | | |
| Mechanical Eng. 201 | 0 | 3 | English 204 | 2 | 0 |
| Pat. Making and Foundry Work | | | Composition | | |
| Mechanical Eng. 207 | 2 | 2 | Mechanical Eng. 202 | 0 | 3 |
| Kinematics | | | Pat. Making and Foundry Work | | |
| Military Sci. 201 or 203.... | 1 | 2 | Mil. Sci. 202 or 204..... | 1 | 2 |
| Physics 203 | 3 | 3 | Physics 204 | 3 | 3 |
| General | | | General | | |
| | 11 | 16 | | 12 | 13 |

JUNIOR YEAR.

| | | | | | |
|------------------------------|----|---|---------------------------|----|---|
| Architecture 305 | 2 | 0 | Drawing 318 | 0 | 3 |
| Mechanical Equipment | | | Machine Drawing | | |
| Drawing 317 | 0 | 3 | History 308 | 3 | 0 |
| Elementary Arch. Drawing | | | Industrial History | | |
| Mechanical Eng. 309 | 0 | 3 | Mechanical Eng. 310 | 0 | 3 |
| Machine Shop | | | Machine Shop Work | | |
| Mechanical Eng. 311 | 0 | 3 | Vocational Teaching 308.. | 3 | 0 |
| Carpentry and Cabinet Making | | | Educational Psychology | | |
| Vocational Teaching 305.... | 3 | 0 | Vocational Teaching 310.. | 3 | 0 |
| Vocational Education | | | Vocational Guidance | | |
| Vocational Teaching 307.... | 3 | 0 | *Elective | 8 | |
| Related Subjects | | | | | |
| *Elective | 8 | | | | |
| | 16 | 9 | | 17 | 6 |

SENIOR YEAR.

| | | | | | |
|------------------------------|----|---|----------------------------|----|---|
| Economics 403 | 3 | 0 | Agricultural Eng. 420 | 2 | 4 |
| Fundamental Principles | | | Auto Mechanics | | |
| English 401 | 1 | 0 | English 402 | 1 | 0 |
| Public Speaking | | | Public Speaking | | |
| Mechanical Eng. 451 | 0 | 3 | Vocational Teaching 416.. | 3 | 0 |
| Sheet Metal Work | | | Adm. and Sup. of Ind. Ed. | | |
| Vocational Teaching 407.... | 2 | 2 | Vocational Teaching 412.. | 1 | 4 |
| Methods of Teaching Ind. Ed. | | | Supervised Teaching | | |
| Vocational Teaching 413.... | 3 | 0 | *Elective | 9 | |
| Related Subjects | | | | | |
| *Elective | 8 | | | | |
| | 17 | 5 | | 16 | 8 |

*To be approved by the Professor of Vocational Teaching.

COURSE IN ARCHITECTURE.

(Leading to the Degree of Master of Science in Architecture.)

FIFTH YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|------------------------|-----------------|-----|------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Architecture 501 | 0 | 18 | Architecture 502 | 0 | 18 |
| Design | | | Design | | |
| Architecture 503 | 2 | 0 | Architecture 504 | 2 | 0 |
| Adv. Construction | | | Adv. Construction | | |
| Drawing 509 | 0 | 4 | Drawing 510 | 0 | 4 |
| Rendering | | | Rendering | | |
| Horticulture 415 | 3 | 4 | Horticulture 416 | 3 | 4 |
| Land. Art. | | | Land. Art. | | |
| Elective | 3 | 0 | Elective | 3 | 0 |

COURSE IN CHEMICAL ENGINEERING.

(Leading to the Degree of Chemical Engineer.)

FIFTH YEAR.

| | | | | | |
|-------------------------|-------|-------|-------------------------|-------|-------|
| Chemical Eng. 503 | 2 | 12 | Chemical Eng. 504 | 2 | 12 |
| Adv. Ind. Chemistry | | | Adv. Ind. Chemistry | | |
| Chemical Eng. 505 | 2 | 4 | Chemical Eng. 506 | 2 | 4 |
| Rarer Elements | | | Chemical Preparations | | |
| Elective | 6 | | Elective | 6 | |
| Thesis | 3 | | Thesis | 3 | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 13 | 16 | | 13 | 16 |

COURSE IN CIVIL ENGINEERING.

(Leading to the Degree of Civil Engineer.)

Each candidate for the advanced degree must select from the list of subjects shown below, or others approved by the head of the course and the Committee on Graduate Studies, an aggregate of at least twenty-one term hours each term.

FIFTH YEAR.

| | | | | | |
|----------------------------|---|---|---------------------------|---|---|
| Civil Engineering 501..... | 2 | 0 | Civil Engineering 502.... | 2 | 0 |
| Least Squares | | | Geodesy | | |
| Civil Engineering 503..... | 2 | 0 | Civil Engineering 504.... | 2 | 0 |
| Water Powers | | | Astronomy | | |
| Civil Engineering 505..... | 2 | 0 | Civil Engineering 506.... | 2 | 0 |
| Sanitary Science | | | Reclamation Engineering | | |
| Civil Engineering 507..... | 3 | 4 | Civil Engineering 508.... | 2 | 6 |
| Adv. Bridge Analysis | | | Higher Structures | | |
| Civil Engineering 509..... | 3 | 3 | Civil Engineering 510.... | 3 | 3 |
| General Civil Engineering | | | General Civil Engineering | | |
| Civil Engineering 511..... | 1 | 3 | Civil Engineering 512.... | 1 | 3 |
| Thesis | | | Thesis | | |
| Civil Engineering 513..... | 3 | 0 | Civil Engineering 514.... | 3 | 0 |
| Highway Constr. and Maint. | | | Highway Financing and | | |
| Civil Engineering 515..... | 1 | 3 | Estimating | | |
| Highway Materials | | | Civil Engineering 516.... | 1 | 3 |
| Elective | 3 | | Highway Materials | | |
| | | | Elective | 3 | |

COURSE IN ELECTRICAL ENGINEERING.

(Leading to the Degree of Electrical Engineer.)

FIFTH YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------|-----------------|----------|--------------------------------|-----------------|----------|
| | Th. | Pr. | | Th. | Pr. |
| Electrical Engineering 501. | 3 | 0 | Electrical Engineering 502. | 3 | 0 |
| Advanced Alternating Currents | | | Advanced Alternating Currents | | |
| Electrical Engineering 503.. | 3 | 0 | Electrical Engineering 504. | 3 | 0 |
| Electrical Machine Design | | | Power Plant Design | | |
| Electrical Engineering 505.. | 3 | 0 | Electrical Engineering 506. | 3 | 0 |
| General Electrical Engineering | | | General Electrical Engineering | | |
| Electrical Engineering 507.. | 0 | 8 | Electrical Engineering 508. | 0 | 8 |
| Laboratory | | | Laboratory | | |
| Elective | 6 | | Elective | 6 | |
| Thesis | 2 | | Thesis | 2 | |
| | <u>17</u> | <u>8</u> | | <u>17</u> | <u>8</u> |

COURSE IN MECHANICAL ENGINEERING.

(Leading to the Degree of Mechanical Engineer.)

FIFTH YEAR.

| | | | | | |
|-------------------------------|-----------|-----------|-------------------------------|-----------|-----------|
| Mathematics 501 | 4 | 0 | Mathematics 502 | 4 | 0 |
| Calculus | | | Differential Equations | | |
| Mechanical Eng. 501 | 2 | 4 | Mechanical Eng. 502 | 2 | 4 |
| General Mech. Engineering | | | General Mech. Engineering | | |
| Mechanical Eng. 503 | 3 | 0 | Mechanical Eng. 504 | 3 | 0 |
| Power Plants | | | Power Plants | | |
| Mechanical Eng. 509 | 1 | 6 | Mechanical Eng. 510 | 1 | 6 |
| Thesis | | | Thesis. | | |
| Elective | 5 | | Elective | 5 | |
| | <u>15</u> | <u>10</u> | | <u>15</u> | <u>10</u> |

H.—TWO-YEAR COURSE IN TEXTILE ENGINEERING.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|------------------------------|-----------------|-------|------------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Drawing 11 | 0 | 3 | Drawing 12 | 0 | 3 |
| Mechanical | | | Mechanical | | |
| Drawing 13 | 0 | 1 | Drawing 14 | 0 | 1 |
| Freehand | | | Freehand | | |
| English 31 | 3 | 0 | English 32 | 3 | 0 |
| Practical Composition | | | Practical Composition | | |
| Mechanical Eng. 21 | 4 | 0 | Mechanical Eng. 22 | 4 | 0 |
| Power and Heat | | | Power and Heat | | |
| Mechanical Eng. 25 | 0 | 4 | Mechanical Eng. 26 | 0 | 4 |
| Forging | | | Woodwork | | |
| Military Science 11 | 1 | 2 | Military Science 12 | 1 | 2 |
| Physics 11 | 2 | 2 | Physics 12 | 2 | 2 |
| Elementary | | | Elementary | | |
| Textile Engineering 11 | 0 | 3 | Textile Engineering 12 | 0 | 3 |
| Designing | | | Designing | | |
| Textile Engineering 13 | 4 | 3 | Textile Engineering 16 | 3 | 3 |
| Yarn Manufacture | | | Weaving | | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 14 | 18 | | 13 | 18 |

SECOND YEAR.

| | | | | | |
|------------------------------|-------|-------|------------------------------|-------|-------|
| Chemistry 51 | 3 | 2 | Chemistry 54 | 2 | 2 |
| Practical Chemistry | | | Dyeing | | |
| Mechanical Eng. 61 | 0 | 3 | Mechanical Eng. 62 | 0 | 3 |
| Machine Shop Practice | | | Machine Shop Practice | | |
| Mechanical Eng. 75 | 4 | 0 | Mechanical Eng. 76 | 4 | 0 |
| Engines and Boilers | | | Engines and Boilers | | |
| Military Science 51 | 1 | 2 | Military Science 52 | 1 | 2 |
| Textile Engineering 51 | 3 | 2 | Textile Engineering 52 | 3 | 4 |
| Yarn Manufacture | | | Yarn Manufacture | | |
| Textile Engineering 53 | 0 | 3 | Textile Engineering 54 | 0 | 3 |
| Designing | | | Designing | | |
| Textile Engineering 55 | 3 | 2 | Textile Engineering 56 | 3 | 4 |
| Weaving | | | Weaving | | |
| Textile Engineering 61 | 1 | 2 | Textile Engineering 58 | 1 | 0 |
| Cotton Classing | | | Fabric Analysis | | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 15 | 16 | | 14 | 18 |

N.—TWO-YEAR COURSE IN ENGINEERING.

FIRST YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|-----------------------------|-----------------|-----|---------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Drawing 11 | 0 | 3 | Drawing 12 | 0 | 3 |
| Mechanical | | | Mechanical | | |
| Drawing 13 | 0 | 1 | Drawing 14 | 0 | 1 |
| Freehand | | | Freehand | | |
| Electrical Engineering 21.. | 4 | 4 | Electrical Eng. 22 | 4 | 4 |
| Elementary Electricity | | | Elementary Electricity | | |
| English 31 | 3 | 0 | English 32 | 3 | 0 |
| Practical Composition | | | Practical Composition | | |
| Mechanical Eng. 21 | 4 | 0 | Mechanical Eng. 22 | 4 | 0 |
| Power and Heat | | | Power and Heat | | |
| Mechanical Eng. 25 | 0 | 4 | Mechanical Eng. 26..... | 0 | 4 |
| Forging | | | Woodwork | | |
| Military Science 11 | 1 | 2 | Military Science 12 | 1 | 2 |
| Physics 11 | 2 | 2 | Physics 12 | 2 | 2 |
| Elementary | | | Elementary | | |
| | 14 | 16 | | 14 | 16 |

SECOND YEAR.

| | | | | | |
|-----------------------------|----|---|--------------------------|----|---|
| Electrical Engineering 55.. | 5 | 4 | Electrical Eng. 56..... | 5 | 4 |
| Alternating Currents | | | Electrical Machinery | | |
| Mechanical Eng. 75 | 4 | 0 | Mechanical Eng. 76 | 4 | 0 |
| Engines and Boilers | | | Engines and Boilers | | |
| Mechanical Eng. 63 | 0 | 3 | Mechanical Eng. 64 | 0 | 3 |
| Engineering Laboratory | | | Engineering Laboratory | | |
| Military Science 51 | 1 | 2 | Military Science 52..... | 1 | 2 |
| | 10 | 9 | | 10 | 9 |

And one of the following groups:

GROUP 1.

| | | | | | |
|------------------------------|---|---|-----------------------------|---|---|
| Electrical Engineering 65... | 3 | 0 | Electrical Engineering 66.. | 3 | 0 |
| Applied Electricity | | | Applied Electricity | | |
| Electrical Engineering 61... | 0 | 4 | Electrical Engineering 62.. | 0 | 4 |
| Electrical Laboratory | | | Electrical Laboratory | | |
| Mechanical Engineering 61. | 0 | 3 | Mechanical Eng. 62 | 0 | 3 |
| Machine Shop | | | Machine Shop | | |

GROUP 2.

| | | | | | |
|--------------------------|---|---|--------------------------|---|---|
| Mechanical Eng. 65 | 3 | 2 | Mechanical Eng. 66 | 3 | 2 |
| Shop Methods | | | Shop Methods | | |
| Mechanical Eng. 71 | 0 | 5 | Mechanical Eng. 72 | 0 | 5 |
| Foundry and Machine Shop | | | Foundry and Machine Shop | | |

XI.—COURSE IN VETERINARY MEDICINE.

FRESHMAN YEAR.

| First Term. | Hours per week | | Second Term. | Hours per week. | |
|--------------------------------|----------------|-----|--------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Biology 101 | 2 | 4 | Biology 102 | 2 | 4 |
| General Botany | | | General Botany | | |
| Chemistry 101 | 3 | 3 | Chemistry 102 | 3 | 3 |
| Inorganic | | | Inorganic | | |
| English 103 | 3 | 0 | English 104 | 3 | 0 |
| Rhetoric and Composition | | | Rhetoric and Composition | | |
| Mil. Sci. 101 103 or 105.... | 1 | 2 | Mil. Sci. 102 104, or 106.. | 1 | 2 |
| Physics 111 | 2 | 2 | Physics 112 | 2 | 2 |
| Agricultural Physics | | | Agricultural Physics | | |
| Vet. Anatomy 111..... | 3 | 6 | Vet. Anatomy 112..... | 3 | 6 |
| Vet. Phys. and Phar. 121.... | 2 | 0 | Vet. Phys. and Phar. 122.. | 2 | 0 |
| Physiology | | | Physiology | | |
| | 16 | 17 | | 16 | 17 |

SOPHOMORE YEAR.

| | | | | | |
|-----------------------------------|----|----|------------------------------|----|----|
| Biology 201 | 1 | 4 | Animal Husbandry 204.... | 2 | 4 |
| Zoology | | | Judging | | |
| Biology 209 | 2 | 4 | Biology 202 | 1 | 4 |
| General Bacteriology | | | Zoology | | |
| English 203 | 2 | 0 | Chemistry 206 | 3 | 2 |
| Composition | | | Organic | | |
| Entomology 203 | 3 | 2 | English 204 | 2 | 0 |
| Veterinary Entomology | | | Composition | | |
| Military Sci. 201 or 203.... | 1 | 2 | Military Sci. 202 or 204.... | 1 | 2 |
| Vet. Anatomy 211..... | 3 | 6 | Vet. Pathology 242..... | 3 | 2 |
| Anatomy of Domestic Animals | | | General | | |
| Vet. Anatomy 213..... | 2 | 4 | Vet. Phys. and Phar. 222.. | 3 | 4 |
| Histology and Embryology | | | Physiology | | |
| Vet. Phys. and Phar. 221.... | 2 | 0 | | | |
| Physiology | | | | | |
| | 16 | 22 | | 15 | 18 |

JUNIOR YEAR.

| | | | | | |
|-------------------------------|----|----|-------------------------------|----|----|
| Dairy Husbandry 301..... | 2 | 2 | Animal Husbandry 302.... | 2 | 2 |
| Market Milk | | | Animal Breeding | | |
| English 301 | 1 | 0 | English 302 | 1 | 0 |
| Argumentation | | | Argumentation | | |
| Vet. Med. and Surgery 371. | 0 | 7 | Vet. Med. and Surgery 372. | 0 | 12 |
| Clinic | | | Clinic | | |
| Vet. Medicine 351..... | 3 | 0 | Vet. Medicine 352..... | 3 | 0 |
| Non-infectious Diseases | | | Non-infectious Diseases | | |
| Vet. Pathology 341 | 2 | 0 | Vet. Pathology 342..... | 2 | 4 |
| Special | | | Special | | |
| Vet. Pathology 343 | 2 | 4 | Vet. Surgery 362..... | 3 | 0 |
| Special Bacteriology | | | General | | |
| Vet. Pharmacology 331.... | 3 | 4 | *Elective | 3 | |
| Pharmacology | | | | | |
| Vet. Surgery 361 | 3 | 0 | | | |
| General | | | | | |
| *Elective | 3 | | | | |
| | 19 | 17 | | 14 | 18 |

VETERINARY MEDICINE

137

SENIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|------------------------------|-----------------|-------|---------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Animal Husbandry 409 | 3 | 2 | English 402..... | 1 | 0 |
| Animal Nutrition | | | Public Speaking | | |
| English 401 | 1 | 0 | Vet. Med. and Surg. 472.. | 0 | 7 |
| Public Speaking | | | Clinic | | |
| Vet. Medicine 453..... | 3 | 0 | Vet. Medicine 452..... | 3 | 0 |
| Infectious Diseases | | | Prac. Med. and Jurispru. | | |
| Vet. Med. and Surgery 471. | 0 | 7 | Vet. Pathology 444..... | 2 | 2 |
| Clinic | | | Laboratory Diagnosis | | |
| Vet. Medicine 451..... | 3 | 0 | Vet. Pathology 442..... | 2 | 2 |
| Dis. of Small An. and Fowls | | | Meat Hygiene | | |
| Vet. Pathology 441..... | 2 | 2 | Vet. Pharmacology 432.... | 1 | 2 |
| Immunology and Serum Therapy | | | Toxicology | | |
| Vet. Pathology 443..... | 2 | 2 | Vet. Surgery 462..... | 3 | 4 |
| Parasitology | | | Operative | | |
| Vet. Surgery 461..... | 2 | 0 | *Elective | 3 | |
| Obstetrics. | | | | | |
| *Elective | 3 | | | | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 19 | 13 | | 15 | 17 |

*To be approved by the Dean of Veterinary Medicine.

COURSES OF INSTRUCTION BY DEPARTMENTS.

The courses of instruction are described on the following pages under the department in which they are offered. Courses from 101 to 199 are for Freshmen, 201 to 299 for Sophomores, 301 to 399 for Juniors, 401 to 499 for Seniors, 501 to 599 for graduate students; 1 to 49 for first-year students in short courses; 51 to 99 for second-year students in short courses. First-term courses are given odd numbers, second-term courses, even numbers.

The figures in parenthesis following the name of a course indicate the number of hours per week, theory and practice, respectively, devoted to the course.

For convenience of reference, the departments are listed here in alphabetical order:

| | Page. | | Page. |
|--|-------|--|-------|
| Agricultural Engineering ... | 140 | History | 196 |
| Agronomy | 143 | Horticulture | 198 |
| Animal Husbandry | 147 | Mathematics | 203 |
| Architecture and Architectural Engineering | 153 | Mechanical Engineering | 205 |
| Biology | 156 | Military Science | 211 |
| Chemistry and Chemical Engineering | 160 | Modern Languages | 218 |
| Civil Engineering | 170 | Physics | 219 |
| Dairy Husbandry | 177 | Rural Social Science | 222 |
| Drawing | 179 | Textile Engineering | 224 |
| Economics | 182 | Veterinary Anatomy | 227 |
| Electrical Engineering | 185 | Veterinary Medicine and Surgery | 227 |
| English | 190 | Veterinary Pathology | 229 |
| Entomology | 191 | Veterinary Physiology and Pharmacology | 230 |
| Farm Management | 194 | Vocational Teaching | 231 |
| Forestry | 195 | | |

DEPARTMENT OF AGRICULTURAL ENGINEERING.

Professor Scoates, Associate Professors Snyder, H. P. Smith,
Mr. King, Mr. Pouncey, Mr. Hutchinson, Mr. F. R. Jones.

201. *Farm Machinery.* (2-2).

The practical study of all types of farm machinery; tilling, seeding, cultivating, harvesting, fertilizing and power machinery.

The laboratory practice consists of a detailed study of the construction, adjustment, calibration and operation of all types of farm machinery.

Demonstrations and tests are made under field conditions.

(Required in C, M).

203. *Gas Engines.* (2-2).

This course will deal with the farm gas engine; its operation, care and repair.

Laboratory practice will consist of the operation, testing and examination of the different types of farm gas engines. Laboratory fee, \$1.50.

(Required in I, XII; elective in C).

204. *Farm Machinery.* (2-2).

Same as course 201.

(Required in I, XII).

206. *Gas Engines.* (2-4).

Same as course 203, with two hours more laboratory.

Laboratory fee, \$1.50.

(Required in M).

211. *Gas Engines.* (2-4).

A modification of course 203.

Laboratory fee, \$1.50.

(Required in XV).

214. *Tractors.* (2-4).

Same as course 314.

Laboratory fee, \$2.00.

(Required in XV).

302. *Repair of Farm Machinery.* (0-4).

The laboratory practice consists of overhauling, repairing and painting of farm machinery, and the use of repair catalogues.

Prerequisite: Agricultural Engineering 201.

(Required in I, group 3; M).

304. *Drainage.* (2-2).

A study of farm drainage, i. e. open ditches, terracing and tile drains.

Laboratory practice consists of surveying for tile drains and laying off terraces.

Prerequisite: C. E. 319.

(Elective in I).

305. *Surveying and Drainage.* (3-4).

A study of farm surveying and the principles of farm drainage, such as open ditches, terracing and tile drains.

The practice consists of surveys of various parts of the farm with tapes and levels, computation of areas, map making and tile laying.

(Required in I, group 3; elective in all other groups, and in C; required in M).

314. *Tractors.* (2-4).

Same as 301. Laboratory fee, \$2.00.

Prerequisite: Agricultural Engineering 203.

(Required in I, group 3; elective in C).

315. *Farm Shop.* (1-6).

This course is especially designed for those intending to teach agricultural engineering in vocational schools. The work will include such subjects as are usually taught in vocational high schools, such as soldering, tinning, erecting of line shafting, belt lacing, power transmission, pipe fitting, gas engines, fundamental principles in the care and operation of farm machinery, and sufficient forging to enable the student to make ordinary farm repairs. Laboratory fee, \$2.50.

(Elective).

316. *Irrigation.* (2-2).

A study of the principles of irrigation practice, source of water supply, and methods of application to various crops, the measurement and duty of water.

The practice consists of reports on bulletins and important irrigation investigations; also the laying out of ditches and irrigation systems.

(Required in I, group 3; elective in C).

317. *Tractors.* (2-4).

In this course a study will be made of the design, operation and repair of different types of gas tractors.

Laboratory practice will consist of a study of the different parts of, together with testing and operating, gas tractors. Laboratory fee, \$2.00.

Prerequisite: Agricultural Engineering 203.

(Elective in I, all groups; required in M).

320. *Farm Machinery.* (2-4).

A modification of course 204.

(Required in XV).

402. *Automobiles and Motor Trucks.* (2-4).

The study of the construction, care, repair, and operation of the gasoline automobile and truck.

The practice consists of: actual study in the laboratory of various types of construction as applied to the different parts of the modern automobile and motor truck.

Text: *The Gasoline Automobile*, Hobbs, Elliott and Consoliver. Laboratory fee, \$1.50.

Prerequisite: Agricultural Engineering 203.

(Required in I, group 3; XV, M; elective in C).

404. *Experimental Agricultural Engineering.* (0-6).

A course for advanced undergraduates who are especially interested in solving some agricultural engineering problems.

(Elective in I, group 3).

409. *Farm Concrete.* (1-2).

A study of the selection of materials used for concrete, and the proper mixing, placing and curing of same, together with the construction of concrete structures such as are found on the farm.

The practice to consist of the design and construction of molds and forms, methods of reinforcing, and proportions of mixture to be used in various farm buildings and equipment. Laboratory fee, \$1.50.

(Required in I, group 3, and in M; elective in C).

410. *Irrigation.* (2-0).

A modification of course 316.

(Required in XV).

413. *Farm Buildings.* (2-4).

The study of building materials, design and location of farm buildings. Ventilation, lighting, heating, water supply, plumbing, sewage disposal will be studied briefly in their relation to rural conditions.

Practice in the use and care of drawing instruments. Complete working drawings, with tracings and blue prints of farm buildings will be made.

(Required in I, group 3; XV and in M).

414. *Farm Buildings.* (0-4).

A continuation of course 413. Complete plans, specifications and bills of material will be worked up for various farm buildings.

(Required in I, group 3; and in M).

415. *Drainage. (2-2).*

Same as course 304.
(Required in XV).

418. *Designing of Farm Structures. (3-2).*

A continuation of course 413.
(Required in XV).

420. *Auto-Mechanics. (2-4).*

The study of the construction, care, repair and operation of the gas engine and of the automobile.

The practice consists of the operation, testing and examination of the gas engine and the automobile.

Laboratory fee, \$1.50.

(Required in XIII).

FOR STUDENTS IN SHORT COURSES.

31, 32. *Shop Computations. (3-0).*

An elementary course in shop computations involving the application of algebra, geometry and trigonometry to shop work.

Text: Advanced Shop Mathematics, Norris and Craigo.
(Required in M).

FOR GRADUATES.

501, 502. *Advanced Drainage and Irrigation. (3-4). Major.*

This course consists of an advanced study of farm drainage and irrigation. Recent developments in these subjects are reviewed, the student using bulletins, scientific journals and advanced text books.

Original designs of drainage and irrigation systems are made to fit conditions on typical farms. Drainage is taken up the first term, and irrigation the second.

501a, 502a. *Advanced Drainage and Irrigation. (2-4). Minor.*

A modification of course 501, 502.

DEPARTMENT OF AGRONOMY.

Professor Morgan, Associate Professors Wood, Stallings, Mr. Sturkie.

101. *Crop Production. (3-2).*

This course gives the student an elementary knowledge of the best practices involved in the production of field crops, including seed selection, the preparation of the seed bed, cultivation, etc. Crop rotation and its value is discussed in an elementary way.

Text: Field Crop Production, Livingston.

The practice work in this course comprises an elementary study of the different farm crops, both in the laboratory and

field, noting particularly those points that constitute ideal seed plants. When opportunity permits, the improved practices involved in crop production will be studied in the field. (Required in I, XII, C).

301. Soils. (4-2).

This course gives the student a rather comprehensive knowledge of the soil and its management. It is given according to the following outline:

(a) The soil as a medium for root development, including a study of rock and its products; the soil mass, together with the physical properties of the soil and their modification; the organic content of the soil.

(b) The soil as a reservoir for water, including the functions of water in plant growth; the amount of water in the soil; the movement of soil water, and the control of soil water.

(c) Plant nutrients in the soil, including a careful study of both micro-organisms and macro-organisms, as they influence soil productiveness.

(d) The soil air; composition and functions of.

(e) The heat of the soil; comprising a study of the sources, functions and means of modifying soil temperature.

(f) External factors in soil management; tillage, crop adaptation, etc.

Text: Soils, Lyon, Fippin, and Buckman.

In the laboratory the student applies the principles learned in the class room to the actual management of soils. Laboratory fee, \$0.50.

Prerequisite: Chemistry 101, 102.

(Required in I, XII, XV).

302. Farm Crops. (4-2).

In this course, all the leading field crops are studied with regard to structure, composition, races and varieties, breeding or improvement, soils, rotations, fertilizers, together with tillage operations, harvesting and marketing.

Text: Field Crops for the Cotton Belt, Morgan; Forage Plants and Their Culture, Piper.

In the laboratory, field, and greenhouse, the student makes a careful study of the leading characteristics of the different crops; seeds are studied as regards purity, and other points that determine value.

Prerequisite: Agronomy 301; Biology 101, 102. .

(Required in I, XII, XV).

305. Genetics. (2-2).

This course comprises a fundamental study of the resemblances and differences in individuals related by descent to the end that these relationships may be accounted for.

The important divisions of the work as presented are as

follows: variation, including a statistical study of variation; the various phases of Mendelism, including the physical basis of Mendelism, independent Mendelian inheritance, linkage relations in Mendelism, the nature and expression of Mendelian factors, allelomorphic relationships in Mendelism; inheritance of sex and related phenomena; species hybridization; pure lines; mutations.

Text: Genetics in Relation to Agriculture, Babcock and Clausen.

In practice the student will make such studies in the laboratory, greenhouse and field as will give him first-hand acquaintance with the phenomena of variation and heredity.

Prerequisite: Biology 101, 102, 201, 202.

(Required in I, groups 4, 5, 7, 9).

306. *Plant Breeding.* (2-2).

This course will deal with the various methods applicable to the improvement of our common field and forage crops. These methods will be considered primarily from the standpoint of their technique and relative value.

In the greenhouse and field laboratory, practice in hybridizing field and forage crops, and also in making field selections, will be given.

Prerequisite: Agronomy 302.

(Required in I, group 4).

404. *The Use of Fertilizers and Manures.* (2-2).

A thorough course dealing with soil requirements as regards fertilizers; methods of determining the fertilizer needs of soils; correct fertilizer practices with reference to the important field crops; lime and its use on the farm; the care, management and use of barnyard manure; the use of green manure in soil improvement.

The fertilizer requirements of various soils for a number of crops will be determined by pot tests. The secondary effects of fertilizers and manures on soils will be studied in the laboratory. When opportunity permits, field excursions will be taken for the purpose of observing farm practices with fertilizers and manures.

Prerequisite: Agronomy 301.

(Required in I, group 4).

406. *Soil Mapping.* (0-3).

In this course special consideration is given to the methods employed in classifying soils, and the benefit derived from soil survey work.

The students make a field study of the various soil types found in the surrounding locality. This area is surveyed and mapped according to the methods employed by the Bureau of Soils of the United States Department of Agriculture. In

this work the student is taught the use of the plane table and map making.

Prerequisite: Agronomy 301.
(Required in I, groups 1, 4).

408. *Advanced Soils. (2-2).*

This course is intended for the student who wishes to make a specialty of soil study. It deals especially with systems of soil management with reference to permanent soil productiveness. Recent literature bearing on the subject is discussed and the results of some of the leading soil investigations studied.

In the soils laboratory special fertility problems will be studied.

Prerequisite: Agronomy 301.
(Required in I, group 1; elective in I, group 4).

FOR GRADUATES.

501, 502. *Advanced Farm Crops. (3-4). Major.*

This course will comprise an advanced study of field crop production and breeding, most attention being given to the recent developments in the field of plant breeding. The student will take up first a study of the principles of genetics. This will be followed by a rather comprehensive study of the recent literature of field crop breeding and crop production. The course of study will be so directed as to cover as thoroughly as possible the results of the more recent and noteworthy investigations relative to the various phases of crop production and breeding. A thesis, based upon original investigation, is required as part of this course.

501a, 502a. *Advanced Farm Crops. (2-4). Minor.*

A modification of course 501, 502.

505, 506. *Advanced Soils. (3-4). Major.*

This course consists of two parts: (1) a concise account of our present knowledge of the soil as a medium for plant life; (2) a detailed study of the more recent and noteworthy investigations pertaining to soils and soil fertility. Free use is made of such publications as "Soil Conditions and Plant Growth," by E. J. Russell; "Soil Science," "The Journal of Agricultural Research," and "The Journal of American Society of Agronomy." A thesis, based upon original investigation, is required as a part of this course.

505a, 506a. *Advanced Soils. (2-4). Minor.*

A modification of course 505, 506.

28. *Soils. (3-2).*

A study of the origin, structure, texture and crop adaptations of agricultural soils. Soil fertility and its maintenance; manures, fertilizers, cover crops, fallowing, fall and spring plowing, crop rotations, diversification and the renovation of worn-out soils will receive attention in their proper order. This course is designed to meet the more practical needs of the two-year student.

Recitations and lectures.

Text: *Productive Soils*, Weir.

Laboratory and field studies on the water-holding capacity of soils, capillarity, the influence of organic matter on the physical properties, lime and its effects, etc. Laboratory fee, \$0.50.

(Required in C, M).

DEPARTMENT OF ANIMAL HUSBANDRY.

Professor Templeton, Professors Stangel, Williams; Associate Professors Conway, Buchanan, Alford, Mr. Regenbrecht, Mr. Walser.

The courses in the Department of Animal Husbandry may be grouped under the four main heads:

- (1) The Judging of Live Stock.
- (2) The Breeding of Live Stock.
- (3) The Feeding of Live Stock.
- (4) The Management of Live Stock.

The courses are as follows:

101. *Judging Market Types of Beef Cattle and Sheep. (0-4).*

The lectures are explanatory of the various classes and grades of beef cattle and sheep recognized in the leading stock markets. The points of these and their value to the stockman, the butcher and the consumer are fully discussed. The practice embraces a thorough training in the scoring of fat cattle and fat sheep; supplemented by the study of dressed beef carcasses as far as possible. Comparative judging constitutes an important part of the work.

Text: *Types and Market Classes of Live Stock*, Vaughn.
(Required in I, C).

102. *Judging Market Types of Horses and Swine. (0-4).*

The classes and grades of horses and swine recognized in the leading markets are discussed fully. The distinction of classes, and their importance, is made clear by the further use of the score card. Comparative judging is also an important factor in this course.

Text: Types and Market Classes of Live Stock, Vaughn.
(Required in I, C).

103. *Live Stock Production (Beef Cattle and Sheep). (2-4).*

A general course briefly covering the various phases of beef cattle and sheep production, including judging, breeding, care, and management. This course is especially designed to meet the needs of students taking Agricultural Education.

Text: Types and Market Classes of Live Stock, Vaughn.
(Required in XII).

104. *Live Stock Production (Hogs and Horses). (2-4).*

This is a continuation of course 102, covering hogs and horses.

(Required in XII).

201. *Farm Poultry. (2-2).*

This is a general course on farm poultry and treats of the breeds and types of poultry; the principles of breeding and mating of fowls; incubation and brooding; feeding for growth and egg production; winter and summer management; housing and hygiene; sanitation; disease; parasites and their treatment; preparing poultry for market; marketing. It deals with the practical application of these principles to general farm conditions.

Text: Poultry Production, Lippincott.

The practice work consists of the study of breeds and types, incubators and brooders, housing, judging of fancy and utility poultry, candling and grading of eggs and poultry products, kiling and dressing poultry.

(Required in I, XII; elective in C).

202. *Judging Breed Types of Cattle, Horses, Sheep and Swine. (2-2).*

The lectures in this course treat of the origin, history, characteristics and adaptability of the various breeds of live stock. As far as the equipment in live stock will permit, the student is shown by means of representative animals the best types of the breeds of cattle, horses, sheep and swine.

Text: Types and Breeds of Farm Animals, Plumb.

The score cards of the different breed associations are used in determining the merits of the animals, and these are further explained in the lectures. An important part of the practice consists of comparative judging similar to that of the show ring.

Prerequisite: Animal Husbandry 101, 102.

(Required in I; elective in XIV; C).

204. *Judging Market and Breed Types of Cattle, Horses, Sheep and Swine. (2-4).*

This course is offered to students in Veterinary Medicine.

The work in both theory and practice is similar to that presented in courses 101, 102 and 202, but less extensive on account of the shorter time given to it.

Text: Judging Farm Animals, Plumb.
(Required in XI).

211, 212. *Market Types.* (0-4).

Same as course 101, 102.

(Required in XV).

302. *Animal Breeding.* (2-2).

A study of the principles of animal improvement which form the basis of proper selection and mating for the production of pure bred live stock and market animals. The course includes a discussion of the subjects of reproduction, variation, heredity, selection, and the various methods of breeding, which include line breeding, inbreeding, crossing, grading, and other subjects connected with the breeding and improvement of farm animals.

Text: The Breeding of Animals, Mumford.

Practice consists largely of a study of the results obtained with the various breeds comprising the College herds. Training is given in the use of herd books, which involves the tabulation of pedigrees of representatives of the different breeds.

Prerequisite: Biology 301, Agronomy 305.

(Required in I, groups 5, 7; XI).

303. *Animal Nutrition.* (3-2).

This subject involves a study of the fundamental principles of live stock feeding, including the composition and digestibility of feeding stuffs, the disposition made of the different feed constituents by the animal organism, and, finally, the methods of calculating rations for the various classes of farm animals, cattle, horses, sheep, and swine. Students are required to use a text-book and that is supplemented by lectures.

Text: Feeds and Feeding, Henry and Morrison. Lectures.

The practice consists chiefly in calculating rations and in working out problems relating to the economic side of live stock feeding.

Prerequisite: Chemistry 206.

(Required in I, group 5).

401. *Animal Nutrition.* (3-2).

Same as course 303.

(Required in I, group 5, 1921-22).

403. *Advanced Judging.* (1-4).

The lecturers of this course treat further of the most approved types of pure-bred animals and of those used for the common market.

Classes of the different kinds of live stock are selected as similar as possible to those which come together in the show rings of exhibitions and the work of competitive judging among the students is given much prominence.

(Required in I, group 5).

405. *Herd Book Study.* (0-4).

The first part of the work consist of training in the intelligent use of herd books, involving practice in the tabulation and study of pedigrees of famous animals. This is followed by a study of the blood lines of the breed or breeds of live stock which the student intends to produce, in order to familiarize him with the best strains and individuals of the breed. Practice is also given in the necessary incidentals connected with the registration of animals, such as rules of entry, application for transfer, etc.

Prerequisite: Animal Husbandry 302.

(Elective in I, group 5).

406. *Beef Cattle Production.* (3-2).

This course comprises a study of the raising of beef cattle as a business, including the most important features of production and marketing. The best methods of producing beef under both stock farming and ranching conditions, together with the details of management in each case, are fully discussed. Special attention is given to the management of pure-bred herds and the keeping of herd records.

The practice consists of the actual work of handling beef cattle, in developing them, and in preparing them for show and sale.

Prerequisite: Animal Husbandry 303.

(Elective in I, group 5).

409. *Animal Nutrition and Live Stock Feeding.* (3-2).

This is a combined course, involving the principles of animal nutrition and a study of the feeding of all classes of farm animals, cattle, horses, sheep, and swine. The subject of animal nutrition, the composition of available feeding stuffs, and the calculating of rations are treated fully.

Text: Feeds and Feeding, Abridged, Henry and Morrison.

The practice consists of calculating rations; studying the results of feeding tests conducted by this and other Experiment Stations; and studying practical feeding operations.

(Required in I, group 4; XI).

410. *Sheep and Wool Production.* (3-2).

The raising of sheep will be studied in full detail both under farm and range conditions. Special attention will be given to the management of pure bred flocks and the keeping of records. The production of wool will be taken up, includ-

ing improved methods of marketing, market grades, and factors determining the value of wool.

The practice will consist of the actual handling of the flock, including feeding, shearing, docking, trimming feet, blocking for show, etc.

Prerequisite: Animal Husbandry 302, 303.

(Elective in I, group 5).

411. *Poultry Breeding and Management.* (2-2).

This course involves a thorough study of the principles of poultry breeding especially their application to the inheritance of egg production. A study of all poultry literature bearing on this subject will occupy the first part of the course. Experiments dealing with certain phases of breeding will be conducted during the course.

Prerequisite: Animal Husbandry 201.

Text: *Poultry Breeding and Management*, Dryden.

(Elective in I, group 5).

Course 411 will be repeated in the second term.

412. *Swine Production.* (3-2).

A detailed study will be made of the problems that confront the breeder and feeder of pure-bred and market hogs. The following items will be considered: Review of hog situation, adaption of breeds, breeding, feeding, dry lot and forage crops, housing, fencing, equipment, fitting for show, showing, sanitation and disease control, marketing, killing and curing products, keeping records.

The actual work of handling will be done in the practice.

Prerequisite: Animal Husbandry 302, 303.

(Elective in I, group 5).

413. *Horse Production.* (3-2).

This course involves a more advanced study of market types and breeds of horses; a statistical study of the horse and mule industry; the breeding, feeding, and management of horses and mules. Special attention will be given to the care of the stallion, brood mare, and foal. The work of horse registry associations and the influence of stallion laws will be reviewed.

Practice will consist of the actual handling of horses, including the training of colts, care and fitting of harness, fitting for sale and show, shipping, horseshoeing, and barn sanitation.

Prerequisite: Animal Husbandry 302: 303.

(Elective in I, group 5).

FOR GRADUATES.

501, 502. Advanced Animal Nutrition. (3-4). Major.

This course involves a study of the more recent investigations in animal nutrition: methods of investigation as well as results are given consideration. Experiment Station literature, scientific journals, and advanced text-books on nutrition are reviewed by the student, who is required to attend class three hours weekly for lecture, recitation, or conference.

501a, 502a. Advanced Animal Nutrition. (2-4). Minor.

FOR STUDENTS IN SHORT COURSES.

52. The Breeding of Live Stock and the Study of Pedigrees. (2-2).

The lectures in this course treat of the principles of breeding and the methods used in the practice of breeding horses, cattle, sheep and swine,—pure-bred animals, as well as those for the common market.

Text: Breeding Farm Animals, Marshall.

The practice consists principally of the study of pedigrees. Students are required to trace out the blood lines of some of the most noted animals of each breed of live stock in order that they may obtain a knowledge of the combinations that have produced the best results.

(Elective in C).

55. Live Stock Feeding. (2-2).

This course embraces a study of the feeding of all classes of farm animals, cattle, horses, sheep and swine. The subject of animal nutrition, the composition of available feeding stuffs and the calculating of rations, are treated fully.

Text: Feeds and Feeding—Abridged, Henry and Morrison.

The practice consists largely of calculating rations for different classes of farm animals, special attention being given to the study of Texas grown feeding stuffs.

(Elective in C).

58. *Live Stock Management.* (2-2).

The raising of horses, cattle, sheep and swine is discussed in full detail, covering all features of management in production and marketing. Special attention is given to the management of pure-bred herds and flocks and to the keeping of private herds and record books.

The practice in live stock management consists of actual work in preparing different classes of stock for show and sale. The student is given instruction in trimming and shearing sheep, washing and curling the coats of cattle, polishing horns and hoofs, etc. The work on horses consists of grooming, fitting harness, and decorating manes and tails.

Prerequisite: Animal Husbandry 55.

(Elective in C).

DEPARTMENT OF ARCHITECTURE.

Professor LaRoche, Professor Kellogg, Mr. June.

101. *Architectural Drawing.* (0-3).

A series of plates given primarily as exercises in draftsmanship, but also with the intention of introducing simple architectural details. The correlation of plan, elevation and section is thoroughly studied.

(Required in IX).

102. *Elements.* (0-6).

The study of architectural form through the classic orders of Architecture, which are studied as examples of proportion rather than as definite mathematical systems. In this course an application of the theory of Shades and Shadows and Perspective is made to the forms studied, and the subject of "wash" drawings introduced. Required in IX.

104. *Shadows and Perspective.* (2-0).

The principles of descriptive geometry which underlie the methods of casting shades and shadows are firmly fixed in the student's mind. First, these are applied in finding shades and shadows on simple geometrical forms followed by their application to forms of more difficult architectural character. The second half of the term is given to a study of the most approved methods of drawing in perspective projection. This course is co-ordinated with course 102.

(Required in IX).

201, 202. *Design (Elementary).* (0-10).

A series of simple rendered problems involving the use of the orders and the study of composition; library research.

(Required in IX, group 1, both terms; group 2, first term).

207, 208. *History of Architecture.* (2-0).

Egyptian, Western, Asiatic, Greek, Roman, Early Christian, Byzantine, Romanesque, and Gothic Styles.

Written quizzes; tracings; research; lectures.

Text: *History of Architecture*, Kimball and Edgell.

(Required in IX, groups 1, 2).

209. *Principles of Design.* (1-0).

Lectures on composition as applied to Architectural Design. The preliminary sketch; methods of study and presentation. Library assignments and reports.

Required in IX, groups 1, 2).

210. *Masonry and Carpentry.* (3-0).

A brief, but thorough study of the characteristics of the more important materials used in masonry and carpentry construction; with special reference to methods and details of construction. Drawing and reports.

(Required in IX, groups 1, 2).

211. *Materials and Graphics.* (4-2).

A thorough study of those principles of mechanics and strength of materials which apply to problems met with in building construction. Algebraic and graphical methods. Texts to be assigned.

(Required in IX, group 1).

212. *Building Construction.* (1-3).

An application of the theory covered in course 211 to framed structures of wood. Girders, beams, columns, roofs and roof trusses are studied in their relation to a particular building designed by the student, who figures his own loads and spacings, and calculates the size of the various members, working out all connections. Text to be assigned.

(Required in IX, group 1).

214. *Design.* (0-8).

Same as 216, with less time scheduled.

(Required in IX, group 2).

301, 302. *Design (Intermediate).* (0-5).

A series of major and sketch problems in design, composition and planning throughout the year.

(Required in IX, group 1).

309. *History of Architecture.* (2-0).

Renaissance and Modern Architectural Styles.

Written quizzes; tracings; research; lectures.

Text: *History of Architecture*, Kimball and Edgell.

(Required in IX, groups 1, 2).

311, 312. Design. (0-10; 0-12).

For students in the Structural group. Similar to courses 301 and 302, but with application to buildings and a more utilitarian nature such as power plants, factories and store houses.

(Required in IX, group 2).

316. Mechanical Equipment. (3-0).

Water supply, sanitation and plumbing. Heating and Ventilation. Wiring and illumination. The fundamentals of these subjects are covered by means of lectures and assigned problems. Text as assigned.

(Required in IX, groups 1, 2).

321, 322. Building Construction. (1-4).

A continuation of the work begun in course 212. Framed structures in steel and reinforced concrete are thoroughly studied; the work is done in the exact manner required by the conditions of actual practice. Text to be assigned.

(Required in IX, group 1).

401, 402. Design (Advanced). (0-18, 0-20).

This course is a continuation of the work in Architectural Design with more advanced problems in planning, composition and presentation.

Required in IX, group 1.

406. Professional Practice. (2-0).

A series of lectures on the law of Contracts; Specifications; professional practice; ethics and professional and inter-professional relationships.

(Required in IX, groups 1, 2).

407. History of Art. (2-0).

The history of Painting, Sculpture and Architectural Ornament. The aim of this course is to give an appreciation of the various schools of painting and sculpture, and an analysis of historic styles of decoration as applied to Architecture.

(Required in IX, groups 1, 2).

411, 412. Structural Design. (0-14).

A set of working structural drawings (with schedules and calculations) is made of a representative building designed by the student. Wood and steel framing and foundations being especially emphasized. Text, Building Handbooks.

(Required in IX, group 2).

414. Modern Architecture. (1-0).

An analysis of modern buildings in respect to the influences of historic styles; also in respect to materials and methods of construction used. The requirements of special types

of buildings such as schools, libraries, theaters, hospitals, etc., are studied. Lectures and reports.

(Required in IX, groups 1, 2).

DEPARTMENT OF BIOLOGY.

Professor Ball, Associate Professors Cassiday, Nelson, Cahn; Assistant Professors Pratt, Manning.

BOTANY.

101, 102. *General Botany.* (2-4).

The aim of this course is to provide the student who looks forward to entering some field of work in Agriculture with an accurate and thorough knowledge of living plants. The point kept steadily in view is, therefore, physiologic rather than anatomic. The first term begins with an outline of the external and internal form and structure necessary to the more extended study of life processes of plants. In the second term, types of various subdivisions of the plant kingdom are used to illustrate the great fundamental principles of development and adaption, and to serve as a foundation for later work in classification.

The plan of the laboratory work is based on the inductive principle; the student is trained to acquire facts of development, structure and function by direct observation. Each student is required to keep a note-book in which he records by drawings and notes the results of his work.

Text: College Botany, Atkinson. Laboratory fee, \$0.50 each term.

(Required in I, XII, XIV).

303, 304. *Plant Physiology.* (2-4).

An advanced course in physiology is here offered in which the functions of respiration, assimilation and nutrition receive especial attention. The course is designed for those who wish to pursue work of higher character in the field of general agricultural botany and at the same time to give, in the practical work, an introduction to the methods of research.

Text: Physiology of Plants, McDougal.

Laboratory Manual: Practical Physiology of Plants, Darwin and Acton.

Prerequisite: Biology 101, 102.

(Required in I, group 6; elective in groups 8, 9).

316. *Plant Diseases.* (3-4).

This course begins with a study of the biology and classification of fungi with special reference to pathogenic forms. Types of the more important plant diseases occurring in Texas are selected for study and the student is trained to investi-

gate and identify the cause of the trouble and is shown appropriate corrective measures. Plant diseases due to other causes receive attention within the limits of time and material.

In the laboratory, the student will study the form, structure, and biology of selected fungi and will learn routine methods of cultivation and identification. Diseased plants are placed before him for individual study and he is instructed in the diagnosis of each disease. Laboratory fee, \$1.00.

Text: Fungus Diseases of Plants, Duggar.

Prerequisite: Biology 101, 102.

(Required in I, groups 4, 6, 9; elective in group 8).

ZOOLOGY.

201, 202. *General Zoology.* (1-4).

The essential aims and plan outlined in the work in botany are continued in this course. Especial attention is given to forms of economic importance. Types of the various great groups of animals will be considered as illustrating origin, development and distribution. Careful dissection and study of type forms, with notes and drawings, will be required in the laboratory work. Laboratory fee, \$1.00 each term.

Text: College Zoology, Hegner.

(Required in I, XI, XII, XIV).

301. *General Embryology.* (1-4).

This course presents an outline of the origin and development of the vertebrate animals and of the fundamental problems of heredity. As far as possible, the work will be done in the laboratory.

Text: Text-book of Embryology, Prentiss and Arey.

(Required in I, group 6; elective in group 8).

423. *Advanced Vertebrate Zoology.* (2-6).

An advanced course in zoology, consisting largely of the comparative anatomy of the vertebrates. Especial emphasis will be placed on fundamental principles of evolution and distribution.

Text: Text-Book of Zoology, Parker and Haswell.

(Required in I, group 6).

BACTERIOLOGY.

209. *Introductory Bacteriology.* (2-4).

This course is designed as an introduction to a more extended study of the nature and relations of bacteria. The laboratory work will comprise, in part, the preparation of culture media; of pure cultures; staining and microscopic technique; methods of identification, etc.

Laboratory Manual: Laboratory Methods for Beginners in Bacteriology. Laboratory fee, \$1.50.

Text: General Bacteriology, Jordan.
(Required in XI).

302. *Rural Sanitation.* (2-4).

This course presents an outline of the relation of bacteria to every day life, at home and on the farm. The rationale of sanitation in and about the home; sewage disposal plants suitable for use in villages and in the country; the relations of bacteria, insects and vermin to the health of man and animals will be carefully considered.

Text: Principles of Hygiene, Bergey.

Laboratory study of bacteria and their activities; methods of disinfection, etc.

(Elective in I, group 2).

415. *General Bacteriology.* (1-6).

In this course, the general nature and relations of bacteria, as exhibited in the study of selected types, will be considered.

In the laboratory, routine methods of isolation, preparation, and study of pure cultures; technical microscopy of bacteria, etc., will occupy the time allotted.

Text: Household Bacteriology, Buchanan.

Laboratory Manual: A Manual of Bacteriology, Reed.
Laboratory fee, \$1.00.

(Required in I, groups 6, 7; elective in I, groups 1, 5, 8).

416. *Agricultural Bacteriology.* (1-6).

The relations of bacteria to agricultural pursuits, in soil building, dairy processes, and various fermentations, are studied. In the practice, the student will make analyses of water, milk, sewage and soils. Laboratory fee, \$1.00.

(Required in I, group 6; elective in I, groups 1, 5, 8).

418. *Water Bacteriology.* (2-4).

The relations of bacteria and similar organisms to water, and water supplies, sewage and sewage disposal will be thoroughly considered.

The laboratory work will consist of preparation of culture media; qualitative and quantitative analysis of water, sewage and sewage effluents.

Text: To be selected. Laboratory fee, \$1.50.

Required in IV, group 2).

426. *Advanced Bacteriology.* (0-4).

This course is designed for students who elect special work in Bacteriology and will be adapted to the needs of the groups in making the selection. Laboratory fee, \$1.50.

Prerequisite: Biology 209, 302, 415.

(Required in I, group 6).

432. *Dairy Bacteriology*. (1-4).

(Elective in I, group 7). Laboratory fee, \$1.50.

FOR GRADUATES.

501, 502. *Vegetable Morphology*. (3-4). *Major*.

The life histories of various types of plants beginning with the lower forms and extending throughout the Angiosperms are studied with special reference to structure and reproduction. Special attention is given to the origin and development of sex, the vascular system, the flower, etc., and to the alternation of generations.

The laboratory work includes among other things training in the preparation of permanent microscopic slides.

No text is used, but numerous references are given to publications available to the students. Laboratory fee, \$5.00 each term.

501a, 502a. *Vegetable Morphology*. (2-4). *Minor*.

A modification of course 501, 502. Laboratory fee, \$5.00 each term.

503, 504. *Advanced Vertebrate Zoology*. (3-4). *Major*.

An advanced course in zoology. The theory will deal with the comparative anatomy of vertebrate types. The origin, development and evolution of the organs and organ systems, together with the anatomical evidence of evolution will be emphasized. Laboratory work: detailed dissection of selected vertebrate types.

Text: *Comparative Anatomy of Vertebrates*, Kingsley; and *Text-Book of Zoology*, Parker and Haswell, vol. 2. Laboratory fee, \$5.00 each term.

503a, 504a. *Advanced Vertebrate Zoology*. (2-4). *Minor*.

A modification of course 503, 504.

Text: *Vertebrate Zoology*, Newman. Laboratory fee, \$5.00 each term.

505, 506. *Advanced Bacteriology*. (3-4). *Major*.

Advanced methods of bacteriological analysis of water; of milk and foods; of sewage.

The text will consist of various monographs on the special topics. Laboratory fee, \$5.00 each term.

505a, 506a. *Advanced Bacteriology*. (2-4). *Minor*.

A modification of course 505, 506. Laboratory fee, \$5.00 each term.

DEPARTMENT OF CHEMISTRY AND CHEMICAL ENGINEERING.

Professor Hedges, Professors Thornton, Randolph; Associate Professors
Brayton, Burchard, Salisbury, Stone, Fish; Assistant Professor Moore;
Mr. Schaer, Mr. Spieth, Mr. McCay, Mr. Parkinson,
Mr. Koenig, Mr. Wilson.

CHEMISTRY.**101, 102. General Inorganic Chemistry. (3-3).**

In this course the foundation principles of all chemical activity are fully discussed and demonstrated. The chemical elements and their compounds are then taken up separately and systematically. Industrial applications of the more important chemical processes are briefly described, and organic chemistry is touched upon. This course must precede all other chemical studies. An elementary course in physics should precede or accompany this course.

Text: General Chemistry for Colleges, Alex. Smith.

General laboratory work, duplication of lecture experiments, and simple tests of technical importance. Laboratory fee, \$3.50 each term.

(Required in all four-year courses).

205. Qualitative Analysis. (2-8).

This course includes both the theory and practice of fundamental analytical operations and is designed to enable the student to make a rapid and accurate analysis of substances of average complexity, and to understand the steps by which his results are obtained. In theory the principles upon which the laboratory work is based are explained and discussed, and the student's knowledge rigorously tested by oral and written exercises.

The laboratory work consists of a study of the properties and reactions of the more common basic and acidic radicals, their separation and identification from mixtures, the methods of getting solids into solution for analysis and the analysis of unknown substances. The number of substances analyzed varies with their nature and complexity.

Text: Qualitative Analysis, Steiglitz Part I, and Noyes. Laboratory fee, \$6.00.

Prerequisite: Chemistry 101, 102.

(Required in VIII).

206. Organic Chemistry. (3-2).

The subject is treated primarily as a pure science. An effort is made to select for illustrations such compounds as are of interest to the student of agriculture.

Text: Organic Chemistry, Moore.

In the laboratory a study is made of the properties and typical reactions of the compounds discussed in the lectures. Laboratory fee, \$2.50.

Prerequisite: Chemistry 101, 102.
(Required in I, VI, XI).

207. *Quantitative Analysis.* (2-3).

This course is designed to meet the requirements of civil, mechanical and textile engineering students, and is preparatory to advanced courses in those departments. The laboratory exercises are explained in detail, general deductions drawn, and the student's knowledge of the subject tested by short oral and written exercises. A considerable portion of the class-room time is devoted to chemical calculations involved in the practice.

The laboratory work consists of a number of carefully selected experiments in quantitative analysis designed to typify operations of general application. Laboratory fee, \$3.00.

Prerequisite: Chemistry 101, 102.
(Required in III).

208. *Technical Analysis.* (1-4).

This course is designed to give the student an insight into the methods employed in the analysis of materials connected with their profession and the application of the results obtained to practical problems. The work in the laboratory is discussed and explained, and its application to engineering problems emphasized.

In the laboratory fuels, steels, cements, waters for industrial purposes, and industrial products that are commonly met with, are analyzed by rapid technical methods. Laboratory fee, \$3.00.

Prerequisite: Chemistry 207.
(Required in III).

301, 302. *Organic Chemistry.* (3-4).

The lectures and recitations serve as an introduction to the chemistry of the compounds of carbon. A study is made of the general principles, and attention is called to their application to various industrial processes.

The laboratory work serves as a basis for the course. The student here familiarizes himself with the reactions, properties and relations of typical organic compounds. Laboratory fee, \$6.00 each term.

Text: Organic Chemistry, Norris.

Prerequisite: Chemistry 101, 102.
(Required in VIII).

308. *Dyeing.* (1-4).

This course consists of a study of the physical and chemical properties of textile fibers, dyes, dyestuffs, and mordants, together with the principles and appliances involved in

the commercial coloring of textiles, especially cotton and woolen goods.

Most of the principles discussed in the theory are tested in the laboratory, with especial attention to the production of dyeing to meet particular commercial requirements. Laboratory fee, \$2.00.

Prerequisite: Chemistry 206.
(Required in VI).

309. *Agricultural Chemistry.* (3-4).

This is a study of the fundamental chemical principles of agriculture, and in addition to giving the student a grasp of the application of chemistry, it helps to understand the chemical terms used in Experiment Station literature. The chemistry of plant substances, soils, irrigation water, fertilizers, insecticides, and fungicides is studied.

The laboratory work serves to familiarize the student with the composition and behavior in the laboratory of many materials important in agriculture. It consists of the chemical analysis of feeds, soils, fertilizers, insecticides and fungicides.

Text: Chemistry of Agriculture, Stoddard. Laboratory Manual of Agricultural Chemistry, Hedges and Bryant. Laboratory fee, \$3.00.

Prerequisite: Chemistry 206.
(Required in I, XII).

407. *Quantitative Analysis.* (2-3).

Same as course 207.
(Required in VI).

408. *Quantitative Analysis.* (1-4).

This course is designed to familiarize students in textile engineering with the methods employed in the analysis of size compounds, and with the properties of the various substances they contain. In the early part of this course experiments are conducted to test the purity of the substances usually incorporated in sizes, and later analyses are performed on typical sizes and the purity of the constituents determined. Laboratory fee, \$3.00.

Text: The Chemistry and Practice of Sizing, Percy Bean.
Prerequisite: Chemistry 407.
(Required in VI).

410. *Water Treatment.* (3-0).

This course is designed to impart a knowledge of the methods employed in the analysis of waters for industrial and potable purposes of the interpretation of the results for such analyses, and of the methods employed in water purification. Attention is also directed to the nature and analysis of sewage, and its purification. Laboratory fee, \$3.00.

Prerequisite: Chemistry 307.
(Elective in IV, group 2).

418. *Technical Analysis.* (1-4).

Same as course 208. Laboratory fee, \$3.00.
(Required in I, group 3).

421. *Advanced Agricultural Chemistry.* (2-8).

Studies are made of selected topics concerning the chemistry of soils, plants, or animal nutrition, in such a way as to give the student a knowledge of the methods used in agricultural investigation, and to aid him to develop habits of independent thought.

The student is required in this work to take up some special problem in agricultural chemistry or to work on the chemical phase of some problem simultaneously pursued in some other department. Laboratory fee, \$6.00.

Prerequisite: Chemistry 309.
(Required in I, group 1).

431. *Advanced Organic Chemistry.* (2-4).

This course is a continuation of Chemistry 301 and 302 in the study of more complex compounds, especially of those related to the industries.

The laboratory experiments are chosen to correlate with the theory work.

(Elective).

436. *History of Chemistry.* (1-0).

Same as course 207. Laboratory fee, \$3.00.

This course aims to trace the development of chemical knowledge from early times to the present.

Prerequisite: Chemistry 101, 102.

(Required in I, group 1; VIII).

FOR GRADUATES.

501, 502. *Advanced Agricultural Chemistry.* (3-4). *Major.*

Same as course 421, with more advanced work. Laboratory fee, \$5.00 each term.

501a, 502a. *Advanced Agricultural Chemistry.* (2-3). *Minor.*

A modification of course 501, 502. Laboratory fee, \$5.00 each term.

FOR STUDENTS IN SHORT COURSES.

51. *Practical Chemistry.* (3-2).

This course is intended to familiarize the student with chemistry and its relation to every-day affairs. The elementary principles of inorganic chemistry are first considered and

then topics of practical interest are taken up. Some of the topics studied are: Fuels (solid, liquid, and gaseous), illuminants, air and ventilation, water purification and softening, extraction and properties of the non-ferrous metals, alloys, iron and steel, corrosion of metals, lime, cement, brick and pottery, glass, protective coatings, some carbon compounds, foods, etc.

The laboratory work comprises the preparation or testing of metals discussed in the class room. Laboratory fee, \$2.00.

Text: Chemistry of Common Things, Brownlee, and other texts.

(Required in H).

54. *Dyeing.* (2-2).

Similar to course 308 but more elementary. Laboratory fee, \$2.50.

Prerequisite: Chemistry 51.

(Required in H).

GEOLOGY.

209. *General Geology.* (3-2).

This course offers the student a critical introduction to dynamical, structural, and historical geology. The dominant geologic processes, together with their resultants, are emphasized throughout the work. Also, a general working knowledge of the economic and the other associated phases of geology is presented.

The laboratory work will include the megascopic identification of the more common rock-forming minerals and representative members of the common rock groups; introductory map reading; and occasional field excursions. Laboratory fee, \$1.50.

Prerequisite: Chemistry 101, 102.

(Required in I).

210. *Agricultural Geology.* (2-2).

This specialized phase of geology is a natural outgrowth of facts and materials that are treated in General Geology above. The general principles of physical and structural geology are emphasized with special reference to disintegration and decomposition. Much attention will be devoted to such topics as these: structure, composition, formation, association, soil values, and other characteristics of rocks and rock-forming minerals; the principles of rock-weathering and soil formation; physiographic conditions and processes; erosion, drainage, etc. These topics are treated in such a manner as to relate and properly interpret geology and agriculture.

In the laboratory attention will be given to the comparison, composition, and agricultural value of minerals and

rocks; the study of maps and models; supplemental study with stereoscopes, etc. Laboratory fee, \$1.50.

Prerequisite: Chemistry 209.

(Required in I).

212. *Introductory Soil Geology.* (3-2).

The object of this course is to present a concise treatment of the primary fundamentals necessary for teachers who wish to offer work in soil geology and as preparatory work to courses in soils. The first several lectures will be devoted to general geology principles and terms. Regular class study will be directed along the following lines: the origin, mineralogical composition, distribution, transportation, and fixation of soils; geologic agents such as water, wind, ice, vulcanism, organism, etc.; the influence of rock texture and structure in soil formation; also a consideration of the part played by earth relief.

In laboratory work, careful attention will be given to the study and ready identification of the representative rock-forming minerals, not simply as such but with special reference to their soil values. Among the minerals studied will be those with natural fertilizer, aeration, and percolation qualities. The mineralogic composition, texture, structure, and occurrence of the common soil-forming rocks will be studied also. Models and regional maps will be used for illustrative purposes. Laboratory fee, \$1.50.

(Required in XII).

306. *General Geology.* (3-3).

Necessarily some phases of this course are similar to fundamentals in course 209; but special attention will be given to paving the way for students who will pursue course 425. Critical study will be made of structural, dynamic, and metamorphic agencies affecting the general engineering side of geology. Each student will be required to familiarize himself with the necessary vocabulary for advanced work.

The laboratory work will cover same materials as in course 209, but will be intensified with map and folio readings. Laboratory fee, \$2.00.

Prerequisite: Chemistry 101, 102.

(Required in IV, VIII; elective in IX).

319. *General Geology.* (3-2).

Same as course 209. Laboratory fee, \$1.50.

(Required in XV).

416. *General Geology.* (3-3).

Same as course 306.

Same as course 306. Laboratory fee, \$2.00.

(Required in V).

425. *Engineering Geology.* (2-2).

The theoretical side of this subject is emphasized only when necessary but the practical side is kept prominently in the foreground because agriculture, industry, and commerce are so vitally affected by the work of the engineering geologist. Among the topics to which special attention will be devoted are these: geologic agencies determining the exploitation, usability, and value of dimension stones and rough constructional materials; location, extraction, and transportation; labor problems; foundations, drainage, etc; and the general application of geological principles to engineering problems.

The work in the laboratory will pertain to intense study of the common dimension stones and other constructional materials; a rapid survey of the more important metals and non-metals; detail work on structure sheets; a study of type areas of economic importance; written reports on a comparative study of State and Federal Surveys, etc.

Text: Ries and Watson's *Engineering Geology*. Laboratory fee, \$1.50.

Prerequisite: Chemistry 306, Physics 203, 204.
(Required IX, group 2; elective in IV).

426. *Historical Geology.* (3-2).

The student in this course will find quite an advancement over the work done in course 209. Practically the entire time will be devoted to a careful consideration of the development of the earth from the beginning of geologic time to the present, with special reference to the evolution of the North American continent. Also stratigraphic principles and relationships as interpreted from the structural and fossil records of the earth. Emphasis will be placed upon environmental influences and adaptability of life forms.

Text: Pirsson and Schuchert's *Historical Geology*. Laboratory fee, \$2.00.

Prerequisite: Chemistry 209.

450. *Petroleum Geology.* (3-3).

The purpose of this course is to present some of the more important fundamentals that are necessary for those who anticipate becoming actively engaged in prospecting, exploiting, investing, or engineering in oil and gas areas. The student's attention will be directed along the following lines: general geological agencies, processes, and resultants; the origin, composition, distribution, association, exploitation, and migration of the hydrocarbons; catchments, stratigraphy, and discovery; well decline, exhaustion, conservation; well and field technology; commercial problems, valuations, etc.

The laboratory work will include a study of rock-forming materials; mineral structures, textures, capillarity, porosity;

sedimentation, sedimentaries, and metamorphism in relation to oil and gas occurrences; petroliferous materials; comparative study in well cuttings and well logs; map interpretation and construction; careful study of type areas; field excursions. Laboratory fee, \$2.00.

Prerequisite: Chemistry 209.

CHEMICAL ENGINEERING.

The foundation for the work in chemical engineering is laid in the courses in chemistry already described. Chemistry and chemical engineering cover such a broad field that in the Senior year students are advised to specialize in some branch of technical analysis such as its application to the cotton seed oil industry, petroleum technology, problems of sanitation, or the chemical control of a cement plant. All the work is supplemented by laboratory work. The chemical industries most highly developed in this State are inspected from time to time.

201. *Industrial Chemistry.* (3-0).

Same as Chemical Engineering 307.

(Required in XIII).

202. *Elementary Quantitative Analysis.* (2-8).

This course serves as an introduction to the methods of exact analysis, and is regarded as preliminary training for the more advanced courses. In the class-room the practice and theory of the laboratory exercises are dealt with by lectures and recitations. Special attention is given to stoichiometry.

The laboratory work consists of a number of carefully selected experiments in quantitative analysis designed to typify operations of general application. The work is first gravimetric, then volumetric. In the early periods compounds of known composition and purity are analyzed but later substances of industrial significance, whose percentage composition is known only to the instructor are undertaken. Near the close of the term an analysis is made of a carbonate or silicate rock for the commonly determined constituents.

Text: Notes on Quantitative Chemical Analysis, Foulk. Calculations of Analytical Chemistry, Miller. Laboratory fee, \$6.00.

Prerequisite: Chemistry 205.

(Required in VIII).

208. *Metallurgy.* (2-0).

Same as Chemical Engineering 408.

(Required in XIII).

301, 302. *Technical Analysis.* (2-9; 2-6).

The theory consists of lectures, recitations and conferences dealing with technical methods of analysis, both rapid and exact, effort being made to thoroughly familiarize the

student with principles involved. Before beginning an analysis the student is required to consult current literature and standard books of reference and present a written outline for criticism and suggestion.

The laboratory work comprises the analysis of limestone, fuels, lubricating oils, gas, boiler water, iron and steel, alloys, ores, paint, soap, sugar, asphalt and other materials of engineering and industrial importance.

Text: Quantitative Analysis, Mahan; Engineering Chemistry, Stillman. Laboratory fee, \$6.00 each term.

Prerequisite: Chemical Engineering 202.
(Required in VIII).

303. *Physical Chemistry.* (3-4).

Same as course 411. Laboratory fee, \$5.00.
(Required in I, group 1).

306. *Microchemical Methods.* (1-2).

(Required in I, group 1).

307. *Industrial Chemistry.* (3-0).

This is an introductory course, covering the principal applications of chemical process to commercial products, mostly organic in nature, such as gas manufacture, petroleum products, soaps, the starch and sugar industries, and the manufacture of paper, leather, and explosives. The manufacture of fertilizers, cement and ceramics is also considered.

Text: Industrial Chemistry, Benson.

Prerequisite: Chemistry 101, 102.

(Required in III).

408. *Metallurgy of Iron and Steel.* (2-0).

In this course the metallurgy of iron and the manufacture of steel are considered in detail, especial attention being given to the nature and location of valuable iron ore deposits, together with suitable fluxes; to the nature and availability of proper fuels, together with the furnaces used; to the constitution of the resulting pig iron and the manufacture of steel therefrom; and finally to the chemistry of the different kinds of steel and their adaptability in engineering practice. Lectures and recitations.

Text: The Metallurgy of Iron and steel, Stoughton.

Prerequisite: Chemistry 101, 102.

(Required in III).

411. *Physical Chemistry.* (3-4).

This course presents physical explanations of chemical and allied phenomena, together with a mathematical exposition of the laws involved. Some of the subjects thus developed are the atomic theory, the periodic law, solubility, fusion, vaporization, the phase rule, dissociation in solution, chemical

equilibrium, and relative chemical activity. It leads up to the consideration of the best research of today. Most of the theoretical conclusions deduced in the class-room are confirmed in the laboratory. Lectures and recitations.

The laboratory work consists of the calibration of apparatus, determination of molecular weights, heats, of reaction, rate of reaction, Law of Mass Action and other related topics. During the second term most of the experiments deal with electrical phenomena. A few experiments illustrating electrochemical processes of commercial importance are performed. Laboratory fee, \$5.00.

Prerequisite: Chemistry 301, 302.

(Required in I, group 1; VIII).

412. *Industrial Chemistry.* (3-8).

This course deals with the application of chemical theories and laws to industrial processes, organic chemical processes being emphasized, especially those dealing with the refining of petroleum, cottonseed oil, and sugar.

Text: Industrial Chemistry, Thorp. Laboratory fee, \$6.00.

Prerequisite: Chemical Engineering 413.

(Required in VIII).

413. *Chemical Technology.* (3-4).

The theory consists of lectures and conferences dealing with technical processes and their application to the industries and the construction and operation of industrial chemical plants. As the work of the student diverges individual conferences will be arranged with each during which his particular problems will be discussed. Reference will be made to the library and current technical literature. Laboratory fee, \$5.00.

Prerequisite: Chemical Engineering 302.

(Required in VIII).

414. *Sanitary Chemistry.* (3-4).

The course deals with the sanitary examination of food, milk, and milk products, and the sanitary analysis of water, including water treatment methods. Methods of purification of water, as the use of sand filters, coagulants, and algicides, are explained. Sources of pollution of water and milk supplies and their relation to public health are discussed. Problems common to the sanitary chemist and engineer are also considered. Laboratory fee, \$5.00.

Prerequisite: Chemistry 206 or 301, 302.

(Required in VIII).

452. *Chemical Summary.* (3-0).

This course is designed to summarize all the work given in the course in Chemical Engineering and to co-ordinate the different subjects throughout the four years' work. Work is given by means of lectures recitations and written tests.

DEPARTMENT OF CIVIL ENGINEERING.

Professor Nagle, Professors Richey, Emmons; Associate Professors Bird, Marburger; Assistant Professor Munson;
Mr. Lochridge, Mr. Braden, Mr. McNew.

201. *Plane Surveying.* (3-5).

Chaining; the adjustment, use and care of compass, transit, level, plane table and hand instruments; measurement of angles; land surveys and computations; stadia, topographic, city and general surveying; leveling; observations for true meridian and latitude; plotting results of surveys.

Stress is laid upon the practical side of surveying, the importance of care and precision both in the field and the classroom, and the necessity for understanding the principles underlying each step of the work.

Additional problems under the same working conditions met by the practicing surveyor are assigned in course 300 during the summer

Text: Principles and Practice of Surveying, Vols. 1 and 2, Breed and Hosmer. Laboratory fee, \$0.75.

Prerequisite: Mathematics 103.

(Required in IV).

202. *Railroad Engineering.* (2-3).

The theory and practice of simple and compound curves are taught in both class-room and field and such problems are given as will illustrate the application of the theory to actual working conditions.

Text: Field Manual for Railroad Engineers, Nagle.

Problems in simple and compound curves are assigned, the notes calculated and the curves "run out" in the field.

Prerequisite: Civil Engineering 201. Laboratory fee, \$0.75.

(Required in IV).

204. *Analytic Mechanics.* (4-0).

A study of the fundamental principles of mechanics, with numerous problems showing their application in engineering. Both kinetics and statics are considered but especial emphasis is put upon the applications of the principles of static equilibrium.

Text: Applied Mechanics, Poorman.

Prerequisite: Mathematics 203; to be accompanied by Mathematics 204.

(Required in IV, IX, XV; group 2).

206. *Plane Surveying.* (1-3).

A modification of course 201.

After covering the fundamental principles of surveying,

special attention is given to the use of the transit and level in making layouts of building and machinery foundations, lining shafting, running profile surveys for pipe lines, etc.

Text: Surveying Manual, Pence and Ketchum. Laboratory fee, \$0.50.

Prerequisite: Mathematics 103.

(Required in V, VI, XV).

300. Field Practice. Summer Following Sophomore Year; 3 Weeks.

This course includes the care, management and use of surveying instruments in making land, topographic and triangulation surveys, particular attention being paid to stadia and and plane table methods.

Practical working conditions are approximated by requiring a full working day in the solutions of special problems in the several different surveys. Areas are computed, topography platted and maps made. The true meridian is determined by observations on the sun and Polaris. Each instrument-man is required to become reasonably proficient in the use of the surveyor's compass, transit, level and plane table.

Reference text: Principles and Practices of Surveying, Vols. 1 and 2, Breed and Hosmer, together with additional notes by the instructors. Laboratory fee, \$1.00.

(Required in IV).

303. Railroad Engineering. (2-3).

A continuation of course 202, covering transition curves, frogs and switches, turnouts, vertical curves, earthwork, overhaul, estimates, etc.

Theory is demonstrated in the field by working out assigned problems and actually doing the field work necessary. Instruction in platting progress profiles, preparing preliminary, monthly, and final estimates, including the determination of overhaul, is given.

This practice, as well as that of course 202, is preliminary to more elaborate field work required in course 400, and railroad drafting in course 401.

Text: Field Manual for Railroad Engineers, Nagle. Laboratory fee, \$0.75.

Prerequisite: Civil Engineering 202.

(Required in IV).

304. Railroad Construction. (2-0).

Railroad surveys; materials; structures; equipment; costs; economics.

Text: Design of Railway Location, Williams.

Prerequisite: Civil Engineering 303.

(Required in IV).

305. *Mechanics of Materials.* (3-2).

This course covers a treatment of the resistance of materials and the mechanics of pipes, riveted joints, beams, columns, shafts, etc.

Practice consists of determination of the strength, ductility, modulus of elasticity, and other properties of engineering materials. Various tests of timber, steel, cast iron, cement, etc., are made by the student and reports submitted showing results. In these reports considerable attention is given to the presentation of results in clear and condensed form by means of curves and tables.

Text: *Strength of Materials*, Boyd. Laboratory fee, \$1.00.

Prerequisite: Mathematics 204 and Civil Engineering 204 or equivalent, or registration in equivalent course.

(Required in III).

306. *Masonry.* (3-0).

The fundamental principles involved in the design and construction of masonry structures in general are treated in this course. Reinforced concrete, however, receives further and more detailed consideration in courses 413 and 414.

Text: *Masonry Structures*, Spalding.

Prerequisite: Civil Engineering 305 or 307.

(Required in IV).

307. *Strength of Materials.* (4-2).

Same as course 305, except that the strength and mechanics of materials used in engineering are studied in greater detail. Laboratory fee, \$1.00.

(Required in IV, IX, group 2).

311. *Hydraulics.* (3-2).

The laws governing the action of water at rest and in motion, as related to engineering problems, the flow of water in pressure mains, sewers, aqueducts, open channels, and in rivers; measurement of the flow of water by nozzles, orifices, weirs, and meters; estimates for water supply and water power; hydrography; theory and efficiency of water wheels, motors, turbines, rams and pumps.

The practice consists of calibration of nozzles, orifices, water meters, weirs, pressure gauges; efficiency tests on impulse motors, hydraulic rams, and one, two and three-stage centrifugal pumps.

Text: *Hydraulics*, Daugherty.

Prerequisite: Mathematics 204.

(Required in IV).

319. *Farm Surveying.* (2-3).

Chain surveying; adjustments and use of instruments in leveling, compass and transit surveying, with special reference

to application on farms. The necessary trigonometric formulas are taught in connection with this course.

Text: Surveying Manual, Pence and Ketchum. Laboratory fee, \$0.50.

(Required in I, groups 3, 4, 10; elective in I, group 9).

326. Topographic Drawing. (0-2).

This is a course of instruction and practice in the essentials of topographic drawing, and includes a study of the forms and practice in the execution of the common individual conventional signs; study and practice in the methods of showing configurations of the earth's surface by means of contours; study of the forms and practice in the execution of the conventional alphabets used in lettering on topographic maps; and practice in the execution of conventional signs and lettering in combination (map drawing).

327. Plane Surveying. (1-3).

Same as course 206. Laboratory fee, \$0.50.

(Required in IX, group 2; elective in VIII).

328. Mechanics of Materials. (3-0).

Same as course 305, except that no practice is given during the first term, the practice being covered by course 320.

(Required in V, XV).

329. Mechanics of Materials Laboratory. (0-2).

Same as the practice given in course 305. Laboratory fee, \$1.00.

(Required in V, XV).

330. Framed Structures. (2-3).

This is a combination of courses 302 and 308 hertofore offered in the 44th and preceding catalogues. The theory covers applications of the laws of equilibrium in the determination of stresses in roof trusses and bridge trusses; abbreviated methods for bridge trusses including the use of index stresses.

The practice covers the elements of graphic statics; use of the force and equilibrium polygons in determining resultants, reactions, centers of gravity and bending moments; determination of stresses in bridge and roof trusses by the construction of stress diagrams.

Text: Modern Framed Structures, Part I, Johnson, Bryan and Turneure.

Prerequisite: Mathematics 204, Civil Engineering 204, 307.

(Required in IV, IX; group 2).

400. Field Practice. Summer Following Junior Year; 3 Weeks.

A practice course in which effort is made to approximate actual working conditions of preliminary and location surveys.

The class is required to complete exercises in railroad surveying; river gauging; road and street location; mapping. Each student is drilled in the use of the transit and level in running preliminary and location lines; with the surveyor's compass in tying in land lines; with the hand level, pocket compass and pocket sextant in taking topography. Instruction is given in cross-sectioning, staking out bridge openings, running drainage areas and determining the size of drainage openings. The care and adjustment of instruments is reviewed and observations on the sun and Polaris for determining the true meridian and latitude are repeated. Additional problems of benefit to the student will be assigned when time permits.

Reference texts: Field Manual for Railroad Engineers, Nagle; Notes on Railroad Summer Practice, Love. Laboratory fee, \$1.50.

(Required in IV).

401. *Railroad Drafting.* (0-4).

Office methods of working up the notes of reconnoissance, preliminary and location surveys and maintenance surveys. This includes the completion of a map, a profile and estimate of the line located in course 400.

(Required in IV, groups 1, 2).

403. *Roofs and Bridges.* (4-6).

Continuation of work begun in course 330, and including influence lines, determination of stresses due to lateral loads. Study of the design of simple plate girder and truss spans. The student makes designs and general drawings and has some practice also in detailing.

Text: Modern Framed Structures, Parts I and III, Johnson, Bryan and Turneaure.

Prerequisite: Civil Engineering 330.

(Required in IV, group 1).

404. *Bridge Design.* (0-6).

A continuation of the practice in course 403.

Prerequisite: Civil Engineering 403.

(Required in IV, group 1).

406. *Materials of Construction.* (0-3).

A laboratory study of the suitability of various materials of engineering, including brick, stone, sand, gravel, cement, mortars and concrete. Laboratory fee, \$2.00.

Prerequisite: Civil Engineering 305.

(Required in IV, group 1; IX).

407. *Roads and Pavements.* (3-0).

This course is provided for students in general Civil Engineering, and covers a brief study of country roads and city

pavements. Highway location, design, construction and maintenance are studied; also road laws, finances, organization and supervision.

The text is supplemented by lectures, the use of bulletins, road machinery, models and samples of materials.

Text: Elements of Highway Engineering, Blanchard.

Prerequisite: Civil Engineering 201.

(Required in IV, group 1; I, group 4; XV).

410. *Contracts and Specifications.* (2-0).

A brief study of the law of contracts as applied to engineering operations; the relation of the engineer to the owner and to the contractor; the necessity for, and preparation of, engineering specifications and the accompanying documents; general and specific clauses in specifications; illustrative examples.

Texas: Elements of Specification Writing, Kirby, Contracts in Engineering, Tucker.

(Required in IV, V, XV; elective in IX).

411. *Hydraulics.* (3-0).

Same as course 311, except that no practice is given.

(Required in III; elective in V).

413. *Elements of Reinforced Concrete.* (2-0).

The theories of stress distribution, and various systems of reinforcement employed in the construction of beams and columns are discussed, and illustrative examples studied. Determination of stresses and elementary design, based upon the assumptions commonly made, are taken up by means of practical problems solved by the student.

Text: Reinforced Concrete Construction, Vol. I, Hool.

Prerequisite: Civil Engineering 204, 305.

(Required in IV, IX, group 2).

414. *Reinforced Concrete Design.* (2-3).

Study of the design of various types of reinforced concrete structures, such as buildings, bridges, retaining walls, culverts, etc. Practice is laid in the making of simple designs and working drawings.

Text to be selected.

Prerequisite: Civil Engineering 413.

(Required in IV, group 1; IX, group 2).

415. *Highway Construction and Maintenance.* (4-0).

This course covers the construction and maintenance of all types of roads. The text-book is supplemented by frequent reference to bulletins, standard specifications, trade catalogues, proceedings of engineering societies, and current engineering periodicals.

Text: The Construction of Roads and Pavements, Agg.

Prerequisite: Civil Engineering 303.
(Required in IV, group 2).

417, 418. *Highway Materials.* (1-3).

The various materials used in the construction and maintenance of roads and pavements are studied with special reference to their suitability for the various types of construction. The mining, refining and testing of bituminous materials and control of the manufacture of the various pavement mixtures are studied in detail. The laboratory work consists of standard tests of both bituminous and non-bituminous materials.

Text: Laboratory Manual of Bituminous Materials, Hubbard; and bulletins. Laboratory fee, \$2.00, first term; \$3.00, second term.

Prerequisite: Senior classification.
(Required in IV, group 2).

423. *Bridge Design.* (2-3).

A study of the stresses in steel highway bridges and the making of simple designs.

Text: Design of Highway Bridges, Ketchum.

Prerequisite: Civil Engineering 330.
(Required in IV, group 2).

426. *Highway Bridges and Culverts.* (1-5).

This course includes lectures and problems in the design and construction of highway bridges and culverts. The types of bridges best suited to various traffic conditions are studied, and such questions as the size of waterways, width of road, etc., are taken up in detail.

Text to be assigned.

Prerequisite: Civil Engineering 413.
(Required in IV, group 2).

429. *Highway Laws and Economics.* (3-0).

This course includes a study of the Texas highway laws with a comparison of the laws of other States. Problems of economical selection and financial justification for construction are also studied along with the various methods of financing.

Text: Engineering Economics, Fish.

Prerequisite: Senior or Junior classification, Engineering courses.

(Elective in IV, group 2).

434. *Irrigation and Drainage.* (2-0).

Determination of the quantity of water available; collection and storage works; design, location and construction of distributive systems; economic use, and "duty" of water in irrigation; water rights.

Text: Irrigation Engineering, Wilson and Davis.

Prerequisite: Civil Engineering 311.
(Required in IV, group 1).

440. *Sanitary Engineering.* (4-2).

A study of the collection, storage and distribution of water for municipal use; the necessity for and methods of water purification; design and construction of waterworks systems. A study of questions relating to quantity of sewage; design, construction and maintenance of sewerage systems; sewage treatment and disposal.

Texts: Water Supply Engineering, Folwell; Sewerage, Folwell.

Prerequisite: Civil Engineering 311.
(Required in IV).

441. *Hydraulics.* (3-2).

Same as course 311.
(Required in XV).

DAIRY HUSBANDRY.

Professor Pou; Associate Professors, Clutter, Darnell.

101. *Judging Dairy Cattle.* (0-2).

In this course a careful study is made of dairy type, and the correlation between type and milk production. First, thorough training is given in the scoring of dairy cattle, and this is followed by comparative judging of typical individuals of the major breeds of dairy cattle.

(Required in I, XII, XIV).

102. *Dairying.* (3-2).

A general course dealing with the secretion of milk, and the composition of milk and its products; the use and application of the lactometer in the determination of the total solids and adulteration of milk; the various methods of cream raising and separation; and the principles of making butter and ice cream. Laboratory fee, \$0.50.

Text: Milk and Its Products, Wing.
(Required in I, XII, XIV).

103. *Dairying.* (3-2).

Same as course 102. Laboratory fee, \$0.50.
(Required in C).

301. *Market Milk and Milk Inspection.* (2-2).

A study of the food value of milk; the production, handling and sale of market milk; advanced registry testing; and city milk inspection.

Text: The City Milk Supply, Parker; References assigned.

Prerequisite: Dairy Husbandry 102.
(Required in I, group 1, 7; XI).

302. *Dairy Manufactures.* (2-2).

The manufacture of the more common dairy products, such as butter, cheese, and ice cream, both in the factory and on the farm.

Text: The Book of Butter, Guthrie; The Book of Ice Cream, Fisk.

Prerequisite: Dairy Husbandry 301.
(Required in I, group 7).

304. *Advanced Dairy Cattle Judging.* (0-2).

A further study of comparative judging of dairy cattle. References assigned.

Prerequisite: Dairy Husbandry 101.
(Required in I, group 7).

401. *Herd Book Study.* (0-4).

The tracing and studying of the pedigrees of the leading strains and families of dairy cattle, with special reference to official records.

Prerequisite: Dairy Husbandry 102, Animal Husbandry 302.
(Required in I, group 7).

404. *Seminar.* (2-0).

Devoted to a study along selected lines of research, with a review and study of recent Experiment Station work. (Open only to students taking Dairy Husbandry 406).
(Required in I, group 7).

406. *Dairy Cattle Feeding and Management.* (3-2).

This course covers the field of dairying in its relation to the producer. The breeding, feeding, care and management of dairy cattle will be given special consideration.

Texts: Dairy Cattle Feeding and Management, Larson and Putney; Feeds and Feeding, Henry and Morrison.

Prerequisite: Dairy Husbandry 401, Animal Husbandry 401.

FOR STUDENTS IN SHORT COURSES.

53. *Farm Dairying.* (2-2).

The feeding, breeding and management of dairy cattle; the use and care of cream separators, and the manufacture of butter on the farm.

Text: Dairy Cattle and Milk Production, Eckles.
Prerequisite: Dairy Husbandry 103.
(Elective in C).

DEPARTMENT OF DRAWING.

Professor A. Mitchell; Associate Professor Geist; Assistant Professor Milner; Mr. R. S. Fouraker, Mr. Bone, Mr. Mullins.

101. Mechanical Drawing. (0-3).

Care and use of drawing instruments, simple exercises in the use of drawing instruments, instrumental and free-hand lettering, geometrical constructions, construction of plane curves, orthographic and axonometric projections.

Text: *Mechanical Drawing*, Giesecke and Mitchell.

(Required in all four-year engineering courses and in IX and XIII).

102. Mechanical Drawing. (0-3).

Problems in descriptive geometry involving points, lines, planes, tangency, intersections of planes and solids, intersections of solids, development of surfaces, shades and shadows, linear perspective. This course is parallel to and is an application of courses 103 and 104.

Text: *Instrumental Exercises*, Descriptive Geometry, Mitchell.

Prerequisite: Drawing 103.

(Required in all four-year engineering courses and in XIII).

103, 104. Descriptive Geometry. (2-0).

Class-room exercises, quizzes, and lectures on general and special problems relating to points, lines, planes and solids; problems in shades and shadows and in perspective. Special attention is paid to the representation of objects by orthographic projection, in the first and third angles.

Text: *Descriptive Geometry*, Giesecke and Mitchell.

(103 required in all four-year engineering courses and in IX and XIII. 104 required in all four-year engineering courses and in XIII).

105, 106. Freehand Drawing. (0-1).

Drawing from geometrical solids, common objects, plaster casts, still life, to study form, proportion, light and shade; in the second term special attention is given to measuring, dimensioning and describing machines, machine parts, engineering structures and details.

The course is varied to meet the practical needs of students in the different engineering departments.

(Required in all four-year engineering courses and in XIII).

109, 110. Freehand Drawing. (0-3).

Same as courses 105 and 106 for the first term. In the

second term, adaptation of light and shade in architectural drawing.

(Required in IX).

201, 202. Mechanical Drawing. (0-3).

Standard conventional section lining, drawing of standard bolts, nuts, rivets and threads; helixes, elementary parts of machines and engineering structures; details and assemblages; Patent Office drawing, tracing, blue printing. The student is required to carefully sketch and measure his model in the drawing room, shop or field. From his dimensioned sketch, he makes, on detail paper, traces and blue prints his working drawing.

The course is varied to meet the practical needs of students in the different engineering departments.

Text: Mechanical Drawing, Giesecke and Mitchell.

Reference text: Engineering Drawing, French.

Prerequisite: Drawing 101.

(Required in VIII, XIII).

201a, 202a. Mechanical Drawing. (0-2).

A modification of courses 201 and 202.

Text: Mechanical Drawing, Giesecke and Mitchell.

Reference text: Engineering Drawing, French.

Prerequisite: Drawing 101.

(Required in IV, V, VI).

203. Color Harmony and Design. (0-3).

Exercises in the harmony of color, including the use of water and distemper colors for the purpose of training the student in the use of correct color combinations. Decorative and constructive design.

(Required in XIII).

209. Freehand Drawing (Advanced). (0-4).

Line charcoal drawings of full-length antique and modern subjects; shaded charcoal drawings from casts of more complex architectural ornament.

Prerequisite: Drawing 109 and 110).

(Required in IX, groups 1, 2).

210. Freehand Drawing (Advanced). (0-4).

A continuation of course 209.

Shaded charcoal drawings of full-length antique and modern subjects.

Prerequisite: Drawing 209.

(Required in IX, groups 1, 2).

309, 310. Freehand Drawing. (0-4).

Pen and ink, pencil and water color rendering.

Prerequisite: Drawing 210.

(Required in IX, groups 1 and 2).

315. *Mechanical Drawing. (0-3).*

Exercises in the use of drawing instruments, instrumental and free-hand lettering, geometrical constructions, orthographic and isometric projections.

Text: *Mechanical Drawing*, Giesecke and Mitchell.

(Required in I, group 10).

316. *Freehand Drawing. (0-3).*

Elementary principles of free-hand drawing during first part of the term, followed by water color rendering of foliage and general entourage.

(Required in I, group 10).

317. *Mechanical Drawing. (0-3).*

Elementary architectural drawing, including plans, elevations, sections, window and door details, structural steel construction, masonry construction, carpentry, etc.

(Required in XIII).

318. *Machine Drawing. (0-3).*

Correct representation of objects; approved methods of dimensioning drawings; sketching and measuring machine parts; standard conventions; cycloidal and helical curves; screw threads, spur wheels, bevel and worm gears; cam construction.

Text: To be announced.

Prerequisite: Drawing 201 or 101.

(Required in XIII).

409, 410. *Freehand Drawing (Life Class). (0-4).*

Architectural rendering; black-and-white and color studies of the undraped figure; sketches of the draped figure in various media.

Prerequisite: Drawing 309 and 310.

(Required in IX, group 1).

FOR STUDENTS IN SHORT COURSES.

11, 12. *Mechanical Drawing. (0-3).*

Proper care and correct use of drawing instruments, simple exercises in the use of drawing instruments, lettering, geometrical constructions, standard conventional signs, sketching and dimensioning elementary parts of machines.

This course is varied to meet the practical needs of students in the different engineering departments.

Text: *Mechanical Drawing*, Giesecke and Mitchell.

(Required in H, N).

13. *Freehand Drawing. (0-1).*

This course is similar to course 105.

(Required in H, N).

14. *Freehand Drawing.* (0-1).

This course is similar to course 106.
(Required in H, N).

15, 16. *Mechanical Drawing.* (0-2).

A modification of courses 11 and 12.
Text: *Mechanical Drawing*, Giesecke and Mitchell.
(Required in M).

DEPARTMENT OF ECONOMICS.

Professor Clark.

202. *Business Law.* (2-0).

This course is especially fitted for those who plan to enter general business practice, but is important in all spheres of Americal life. Such subjects as the following are studied: the nature and scope of law, contracts, sales, agency, negotiable instruments, employment, partnership, personal property, real property, wills and inheritances, surety, bankruptcy, etc.

Text: *Business Law*, Conyngton.
(Required in XIV).

305. *Fundamental Principles.* (3-0).

This course consists of the theory of economic activities concerning production, distribution and consumption; and the practical problems of credit, banking, foreign exchange, monetary systems, co-operation, tariff, transportation, trusts, corporations, and finance and taxation. The assignments in the text will be supplemented by expositions and explanations by the instructor, and by reports by the students.

Text: *Principles of Political Economy*, Gide.
(Required in XIV).

306. *Fundamental Principles.* (3-0).

Same as course 305.
(Required in I, XII).

307. *Elements of Accounting.* (1-4).

The fundamental theory of debits and credits; principles underlying double-entry bookkeeping; classification of accounts; the trial balance; books and ledgers.

(Required in XIV).

308. *Principles of Accounting.* (2-4).

A continuation of course 204, particular attention being given to the more advanced phases of accounting, such as: partnership and corporation accounts; depreciation, good

will, reserves and sinking funds; preparation and interpretation of the balance sheet; the income account.

Prerequisite: Economics 305 or 306, and Economics 307.
(Required in XIV).

310. Marketing. (3-0).

The purpose of this course is to study the processes through which goods pass in being transferred from producers to consumers. To this end, such problems as the following are studied: the underlying principles of producing for the market instead of for immediate consumption; marketing processes, such as storage facilities, produce exchanges, standardization, and transportation; and business methods in connection with marketing.

Prerequisite: Economics 305 or 306.
(Required in XIV).

403. Fundamental Principles. (3-0).

The work in this course is not materially different from that given in courses 305 and 306. On account of the fact that this is a Senior course the discussions will be somewhat more comprehensive and exhaustive. Also, since the students taking this course are primarily interested in engineering subjects, more emphasis will be placed on general business principles.

Text: To be selected.

(Required in III, IV, V, VI, VIII, IX, XIII, XV).

405. Statistics. (3-0).

The theory and methods of statistics; sources of data; graphic representation of facts; analysis of returns; average and index numbers; frequency charts; charting financial reports; limitations of statistics; current problems, with especial relation to agricultural statistics.

Prerequisite: Economics 305 or 306.
(Required in XIV).

408. Modern Business Corporations. (3-0).

This course considers the common forms of business organization, but special emphasis is placed on corporations as the most important of these. The subjects taken up in connection with the text are the following: definition, advantages, legal status, formation and organization, charter and by-laws, directors and officers, capital stock and bonds, stockholders, corporation bookkeeping, auditing and accounting, dissolution, consolidation and reorganization, and taxation of corporations. Forms are studied as illustrative of the principles laid down. Once a week the recitation period will be turned into a seminar on labor problems. The student will be assigned topics and required to report on specific aspects of

these problems, such as a summary of the history of organized labor in America, a summary of the theories of labor, labor union ideals, and trade union methods. It is hoped thus to balance off the course in business principles with certain concepts of justice to employees.

Prerequisite: Economics 403.

Text: Lough's Business Finance.

(Required in XIV, elective in IV).

411. *Money and Banking.* (3-0).

In this course effort will be made to familiarize the student with such questions as the following: The evolution of money, the various forms of credit, the history of banking institutions, banks in other countries, the relation of money to banks, the Federal Reserve System, etc. The work will be supplemented by reports and class discussions.

Prerequisite: Economics 305 or 306.

Text: To be selected.

(Required in XIV).

FOR GRADUATES.

501. *History of Economic Doctrines.* (3-0). *One-half Minor.*

The purpose of this course is to study in detail, beginning with the Physiocrats, the growth of the science of economics. A careful study will be made of the various schools of economists, and an analysis will be made of such fundamental concepts as production, value, capital, wages, interest, profits, etc., as they have appeared from time to time in the writings of leading economists. Gide and Rist's *History of Economic Doctrines* will serve as a guide into these authorities.

502. *Advanced Marketing.* (3-0). *One-half Minor.*

This being an advanced course, it should not be attempted without a solid foundation in economic theory and business principles. In the course little attention is paid to the elementary marketing processes, but special emphasis is placed upon the underlying theories relating to the system of transferring goods from producers to consumers. In connection with the lectures by the instructor and special investigations by the students, a critical study is made of Alfred Marshall's *Industry and Trade*.

DEPARTMENT OF ELECTRICAL ENGINEERING.

Professor Bolton, Professor Wooten, Associate Professors Ramsay, Staudt,
Assistant Professors Sechrist, Yates, Mr. Blumberg,
Mr. L. L. Fouraker.

201. *Electricity and Magnetism.* (4-4).

Lectures, recitations and problems in electricity and magnetism.

This includes a laboratory investigation of the phenomena studied in the text-book. Laboratory fee, \$0.75.

Prerequisite: Mathematics 102, 103.

(Required in V).

202. *Elementary Electrical Engineering.* (2-4).

Lectures and recitations on simple electric circuits, primary and secondary batteries, battery charging, simple telephone circuits, the magnetic circuit, inductance and capacity.

A short time is devoted to the study of the National Electric Code, and of methods of wiring.

The practice is intended to clarify the ideas received by the student in the class-room. It includes the accurate measurement of various electrical quantities, such as resistance, inductance, capacity, and the effect of temperature, position, etc., on these quantities; a study of the various types of batteries to determine their adaptability to different uses; calibration and repair of instruments, such as ammeters, voltmeters, and wattmeters; tests of the magnetic properties of iron. Laboratory fee, \$0.75.

Prerequisite: Electrical Engineering 201, Mathematics 104.
(Required in V).

206. *Motors, Wiring and Lighting.* (2-2).

Same as course 412. Laboratory fee, \$1.00.

(Required in XIII).

301. *Direct Currents.* (4-6).

This course is devoted to the study of the theory, design, and applications of direct current machinery.

The practice is intended to give practical demonstration of the theory. It includes the operation of dynamos and motors, the determination of characteristics and the measurements and calculation of losses, efficiencies and regulation.

Laboratory fee, \$1.50.

Prerequisite: Electrical Engineering 202, Mathematics

204.

(Required in V).

302. *Alternating Currents.* (4-4).

Lectures and recitations on the principles of alternating

currents, including a study of the relations of voltage, current, resistance, inductance and capacity.

An experimental study of the effect of resistance, reactance, and capacity on alternating current circuits; the determination of wave shapes; and tests of some of the simpler types of alternating current machines. Laboratory fee, \$1.50.

Prerequisite: Electrical Engineering 301, Mathematics 204.
(Required in V).

304. *Direct Current Design.* (0-4).

Text: Electrical Machine Design, Gray.

Practice in the design of parts of the magnetic circuit of electrical machines, followed by the design of a direct current dynamo.

Prerequisite: Electrical Engineering 301.
(Required in V).

305. *Electrical Machinery.* (3-2).

Lectures and recitations on the operation and characteristics of dynamos, motors and transformers of the types most commonly met with in general engineering practice. This course is intended to give only a general idea of the subject. The course is abbreviated so that only the more fundamental principles are studied.

Text: Principles and Practice of Electrical Engineering, Gray.

The practice is designed to give the general engineering student a slight degree of familiarity with the operation of the more important characteristics of both direct current and alternating current machines. Laboratory fee, \$1.00.

Prerequisite: Physics 204, Mathematics 204.
(Required in IV, VIII; IX, group 2; XV).

307, 308. *Electrical Machinery.* (3-0; 2-3).

This course includes instruction in the fundamental principles of direct and alternating current machinery, and operating characteristics of electrical machinery usually installed in power plants and electrically operated industrial enterprises.

Practice includes the operation of the principal types of electric motors, generators and transformers; and the study of their operating characteristics. Laboratory fee, \$1.00 second term.

Prerequisite: Physics 204, Mathematics 204.
(Required in III, VI).

309, 310. *Communication Engineering.* (2-0, 2-2).

Construction and theory of telephone, telegraph and radio apparatus. A study of magneto and central battery circuit, alternating current telegraphy, telephone cable construction, poles, towers, insulators, radio communication.

Practice will include the laboratory study of circuits and instruments studied in the course. It will emphasize the fundamental principles rather than the mechanical details of modern practice. Laboratory fee, \$1.00 second term.

(Elective in V).

401, 402. Alternating Current Machinery. (3-6, 3-4).

This course embraces a study of alternating currents and alternating current machinery, including methods of generation, transformation and use; a study of wave forms and quantities affecting wave forms; and the effect of balanced and unbalanced loads.

The subject is treated from both the graphical and the mathematical viewpoint, the text being supplemented by lectures and problems.

The practical operation and determination of the characteristics of various types of alternating current machines.

Text: Principles of Alternating Current Machinery, Lawrence.

Prerequisite: Electrical Engineering 302, or 308. Laboratory fee, \$1.50 each term.

(Required in V).

403. Electrical Machine Design. (1-4).

Lectures and recitations on the design of electrical machines.

Practice in the design of dynamos, motors and transformers. Working drawings of some of the machines are required, while for others the design of the electrical parts of the machine is considered sufficient.

Text: Electrical Machine Design, Gray.

Prerequisite: Electrical Engineering 302, 304; to be accompanied or preceded by Electrical Engineering 401.

(Required in V).

406. Electric Power Distribution. (2-2).

Lectures and recitations on the transmission and distribution of power by electrical methods. Many subjects not treated in the text-books are studied, and the student is encouraged to investigate all available sources of information.

Practice includes the design and cost estimates of several transmission and distribution systems.

Prerequisite: Electrical Engineering 401.

(Required in V).

408. General Problems. (0-2).

A course of problems based on all engineering work required of the student previous to graduation.

Prerequisite: All subjects required before the second term of the Senior year.

(Required in V).

409, 410. *Advanced Communication Engineering.* (2-3; 1-3).

Advanced telephone, telegraph and radio engineering, including a study of vacuum tubes, long distance telephone circuits, line and cable loading, induction effects, transpositions, phantom circuits, submarine telegraphy, telephone and telegraph repeaters, multiplex telegraphy and telephony, and radio telephony.

Practice will include the laboratory study of circuits and instruments studied in the course. It will emphasize the fundamental principles rather than the mechanical details of modern practice.

Prerequisite: Electrical Engineering 309, 310.
(Elective in V).

412. *Motors, Wiring, Lighting.* (2-2).

An elementary course covering:

(a) A study of the characteristics of the more frequently used types of electric motors.

(b) Lectures on methods of electric wiring for lights and power.

(c) Lectures and recitations on the principles of illumination.

(Elective in I, group 3).

423. *Electric Railways.* (3-0).

A study of railway apparatus, costs of construction and operation of electric railway systems, and operation methods. Students are required to make an engineering report on a small railway project, estimating cost of construction and operation, and probable returns on investment.

The practice in this course consists of the test of electric railway motors, controllers, and other appliances, and tests of electric cars.

Prerequisite: Electrical Engineering 301.
(Required in V).

426. *Illumination.* (1-2).

A course dealing with the principles of illumination and the application of these principles to specific cases. Attention is given to the arrangement of electric lights for decorative purposes as well as for useful illumination.

The practice in this course includes the test of various types of lighting units, the design of lighting systems, and the test of the illumination of buildings already lighted. Laboratory fee, \$0.50.

428. *Telephone Engineering.* (2-0).

A study of telephone circuits and telephone transmission.

Prerequisite: Electrical Engineering 302.
(Required in V).

Prerequisite: Electrical Engineering 301, 305, or 307.
(Required in V).

436. *Wiring and Lighting.* (3-0).

- (a) A study of the fundamentals of interior wiring.
 - (b) The principles of artificial illumination with a study of modern types of illuminants.
- (Required in IX, group 2).

FOR STUDENTS IN SHORT COURSES.

21. *Electricity and Magnetism.* (4-4).

A modification of course 201.

Laboratory verification of the laws studied in the theory. The course also includes the use of instruments for the measurements of voltage, current, resistance, etc. Laboratory fee, \$1.00.

(Required in N).

22. *Direct Currents.* 4-4).

A modification of course 301. Laboratory fee, \$1.00.

(Required in N).

55. *Alternating Currents.* (5-4).

A study of alternating currents with particular emphasis laid on the practical application of the subject matter. As far as possible, the subject will be treated from the graphical viewpoint. Laboratory fee, \$1.00.

(Required in N).

56. *Electrical Machinery.* (5-4).

A study of the types of electrical machinery usually found in power plants and electrical installations. The course deals principally with alternating current machinery.

The practice includes the test of alternating current machines. Laboratory fee, \$1.00.

(Required in N).

61, 62. *Electrical Laboratory.* (0-4).

Laboratory tests of electrical meters and other machines, practice in installing electric wiring and in constructing and repairing electric machines. Laboratory fee, \$1.00 each term.

(Required in N, group 1).

65, 66. *Applied Electricity.* (3-0).

The study of wiring methods, meters, storage batteries, lighting, and line construction.

Practice for this course is given in course 61, 62.

(Required in N, group 1).

DEPARTMENT OF ENGLISH.

Professor Fountain, Associate Professors Thomas, Brackett, Cofer,
Assistant Professors Gunter, Page, Alexander, Browning,
Hickman, Mr. Fritts, Mr. Oliphint.

103, 104. *Rhetoric and Composition.* (3-0).

This course involves recitations, oral and written, readings from masterpieces of literature, and composition writing. (Required in all four-year courses; elective in C).

203, 204. *English Composition.* (2-0).

This course is intended to give the student practice in writing themes and reports on subjects related to his studies in agriculture or in engineering. Attention is also given to the writing of business letters.

Prerequisite: English 103, 104.

(Required in all four-year courses).

301, 302. *Argumentation.* (1-0).

This course involves a study of the essentials of argumentation, and practice in drawing briefs.

Prerequisite: English 203, 204.

301: Required in I, III, V, XI, XII, XIV.

302: Required in III, IV, V, VI, IX (groups 1 and 2).

XI, XIV, XV.

303, 304. *Argumentation.* (2-0).

This course is a modification of 301, 302. More time will be devoted to reading and oral discussions than is available for 301, 302.

303: Required in IV, VI, VIII, IX, groups 1, 2; XV).

304: Required in I, XII.

321, 322. *English Literature.* (3-0).

In this course English literature from the beginning of the Victorian era to the present time will be treated as a reflection of the predominant ideals in politics, economic theory, science, philosophy, and religion. Weekly themes in connection with the reading will be a feature of the course.

(Elective in all four-year courses except XI, XII).

401, 402. *Public Speaking.* (1-0).

The aim of this course is to help the student to a simple, direct manner of speaking. The work consists of the oral interpretation of some of the best orations, writing and delivering original pieces, and debating. Personal conferences with the instructor are required.

(Required in all four-year courses).

403, 404. *Public Speaking and Lecturing.* (3-0).

The aim of this course is to give more practice in speaking

than is offered in the required one-hour course. Attention will be given to the preparation and delivery of special types of speeches and of lectures on popular scientific and industrial subjects. The course is recommended to those who expect to be engaged in teaching, in the extension field, or in similar lines of public service. Conferences with the instructor are required.

(Elective in all four-year courses except XI, XII).

FOR STUDENTS IN SHORT COURSES.

31, 32. *Practical Composition.* (3-0).

This course includes a review of the fundamental principles of composition. The written exercises are on practical subjects, especial attention being given to business correspondence.

(Required in all two-year courses).

53, 54. *Rhetoric and Composition.* (3-0).

Same as course 103, 104.

(Required in M).

DEPARTMENT OF ENTOMOLOGY.

Professor Bilsing, Associate Professor Fletcher, Assistant Professor Remy.

201. *General Entomology.* (2-2).

In this course the student is taught the systematic position of the various insects. The relation of the anatomy of insects to control measures is also studied. The life histories of the more common insects are given, together with the methods of control for the injurious forms. Laboratory fee, \$0.50.

Text: *Elementary Entomology*, Sanderson and Jackson.

(Required in I).

202. *General Entomology.* (2-2).

Same as course 201. Laboratory fee, \$0.50.

(Required in C).

203. *Veterinary Entomology.* (3-2).

A study is made of the more important insects which affect domesticated animals. Special attention is given those insects which act as disease carriers. Methods of control are discussed. Flies, fleas, ticks, and mites are some of the forms which are given attention in this course.

Text: *Veterinary and Medical Entomology*, Herms.

(Required in XI).

301, 302. *Systematic Entomology.* (2-2; 3-2).

A thorough, systematic study of the various orders of insects is made in this course. The student has free access to the entomological library, which contains bound volumes of

all standard publications on Entomology, keys, etc. The student also has access to a considerable insect collection for identification purposes.

Text: Comstock's Manual of Insects.

(Required in I, group 8).

304. *Apiculture. (2-2).*

This course is so arranged as to give the student a practical working knowledge of beekeeping which will prepare him for conducting a small apiary in connection with other farm work or for entering commercial beekeeping as a vocation. The course includes a study of the biology and life history of the honey bee, methods of making hives and equipment, management of swarming, honey plants, harvesting and marketing of honey, wax production and refining, control of bee diseases and elementary queen-rearing. The department is equipped with an apiary of medium size, hives, tools, waxes, presses, automatic extractors and standard equipment used in modern beekeeping.

Text: Beekeeping, Phillips.

(Required in I, group 8; elective in C).

306. *Animal Parasites. (2-2).*

This course consists of a study of insects and other arthropods which are parasitic upon domestic animals or which are concerned in the transmission of diseases of live stock. Methods of eradication and control are given due emphasis.

Text: Herm's Veterinary and Medical Entomology. Laboratory fee, \$1.00.

Prerequisite: Entomology 201.

(Required in I, group 5).

401. *Advanced Economic Entomology. (3-2).*

This course is arranged for students intending to follow entomological work. Particular attention is given to economic problems, methods of entomological research, and field methods of insect investigation and control. This course also embraces insectary methods of breeding insects and studies of insect parasitism.

Prerequisite: Entomology 201.

(Required in I, group 8).

402. *Advanced Economic Entomology. (3-2).*

This course is a continuation of Entomology 301. In addition to a field and laboratory study of life histories which has been carried on in 301, the student goes into a detailed study of insecticides. Various types of spraying machinery, dusting machines, fumigating apparatus are discussed.

(Required in I, group 8).

403. *Entomological Literature.* (3-2).

The aim of this course is to acquaint the student with the most important works on the classification of insects. Publications of various entomologists are discussed. A review of the more important bulletins published by the United States Department of Agriculture and the various State Experiment Stations is made.

(Required in I, group 8).

405. *Fruit Insects.* (2-2).

This course is intended for students who are specializing in horticulture and who wish more definite information concerning the insect pests of fruit and truck crops. In this course a detailed study is made of the life history, habits and control of the pests of these crops. Special attention is given to control methods adapted to Texas conditions and to the value of parasites and orchard management in the control of insect pests.

(Elective in I, group 9).

407. *Economic Entomology.* (3-2).

Special attention is given in this course to the insects which are directly beneficial or injurious. A study is made of the life history of the important pests of farm crops, fruits, vegetables, and live stock. Methods of control and means of preventing insect outbreaks are given due consideration.

In the laboratory the student studies spraying machinery, fumigating apparatus and dusting machinery. The student studies the more important insecticides and makes and applies them when possible.

Text: Sanderson's Pests of Farm, Orchard and Garden.
(Required in I, groups 4, 9).

408. *Queen Rearing.* (1-4).

In this course the student is given the theory of the various methods of queen rearing. Part of the time will be given to the methods of shipping combless packages of bees, and management of apiaries.

(Elective).

410. *Seminar.* (0-2).

An informal conference is held once a week with the members of the department in which the student reports on some important problem. Reviews of various entomological publications are given.

(Required in I, group 8).

FOR GRADUATES.

501, 502. *Research Entomology.* (3-4). *Major.*

A special research problem is assigned to each student

taking this course, in which he makes a life history study of some important insect. The student will make a study of all available published literature on this subject. In addition to this, he will make a systematic study of some group of insects, either of the group to which the insect belongs of which he is making a life history study or of some related group. Laboratory fee, \$2.00 each term.

501a, 502a. *Research Entomology*. (2-4). *Minor*.

A modification of course 501, 502.

505, 506. *Advanced Apiculture*. (3-4). *Major*.

Part of the time in this course will be devoted to a problem in apiary management or in the study of one or more of the diseases affecting bees. Grading and marketing honey, foul brood laws, and methods of eradicating bee diseases will be given due consideration.

505a, 506a. *Advanced Apiculture*. (2-4). *Minor*.

A modification of course 505, 506.

507, 508. *Economic Entomology*. (3-4). *Major*.

In this course a detailed study is made of the most important economic pests. A comparison is made of the structure of insects belonging to the same group which attack our more important crops. In addition to this, cultural methods, trap crops, insecticides, and fumigation will be discussed in connection with these insects. Laboratory fee, \$2.00 each term.

507a, 508a. *Economic Entomology*. (2-4). *Minor*.

A modification of course 507, 508.

DEPARTMENT OF FARM MANAGEMENT.

Professor Whelpton.

402. *Farm Management*. (3-4).

Farming as a business. This course covers in condensed form the application of principles taught in the various agricultural subjects to the business management of the farm. It also includes such problems as size, diversity and quality of business, labor, efficiency and farm layout.

Practice work includes the keeping of simple farm accounts and the application to given farms of the principles covered in theory. Plans for the layout, organization, and management of one farm are worked out.

Text: *Farm Management*, Warren.

(Required in I, XII, XIV, XV).

403. *Farm Accounting*. (1-4).

Figures from Texas farms are used for making out inventories, simple farm accounts, enterprise accounts, and complete cost accounts. Special emphasis is given to the study

and interpretation of accounts, and the application of the information they furnish to improving the farm organization and management.

Text: Farm Management, Warren.
(Required in I, group 4).

FOR GRADUATES.

501, 502. *Advanced Farm Management.* (3-4). *Major.*

An intensive study will be made of such topics as farm business analysis, types of farming and factors affecting type, and farm management methods. Free use will be made of the various farm management technical publications, and certain recent important investigations will be carefully studied.

501a, 502a. *Advanced Farm Management.* (2-4). *Minor.*

A modification of course 501, 502.

FOR STUDENTS IN SHORT COURSES.

52. *Elementary Farm Management.* (2-4).

A study of the farm from a business standpoint. The course takes up such business problems confronting the farmer, as the most profitable size of farm and combination of crop and livestock enterprises, and how to locate weak places in the business plan that can be improved with resulting profit.

Sufficient time is given to farm accounting in practice periods to show how to keep and use simple records of the farm business. One practice problem will be the equipping of a given farm and the planning and organizing of a year's business.

Text: Farm Management, Boss.
(Elective in C).

DEPARTMENT OF FORESTRY.

Professor Siecke, Assistant Professor Wyman.

301. *Principles of Forestry.* (2-2).

This course is intended to give the student a general knowledge of forestry, tracing its history from the beginning in European practice to the United States and following its development in this country. In addition, the course consists of a general survey of the fundamental principles underlying forestry, including the relation of forests to soil, moisture, light, and climatic conditions; influences of forests upon stream flow; the important systems of treating woodlands practiced in Europe and in the United States; the habits of important economic timber trees and the character and uses of the more important woods; preparation of forest maps and working plans; methods of estimating standing timber and

measuring its growth by the use of various forest instruments; artificial regeneration of forests by seeding and planting, and the best trees for ornamental and shelter-belt planting; effects of forest fires and the study of other important enemies of the forest; a brief treatise on the timber regions of the United States; the amount of standing timber and the consumption of timber; the practice of forestry by the government, particularly on its national forests, and the present status of forestry in the States and among private owners of timber land.

Text: *Elements of Forestry*, Moon and Brown.
(Elective in I, all groups; C).

302. *Silviculture*. (2-2).

This course consists of two parts, a study of trees under natural conditions, and the planting and care of shade trees as well as trees set out in shelter-belts, wind-breaks, and woodlots. The first part consists of a study of the life history of trees; the relation of different species to light, moisture, soil, temperature, and the effect of their association on the forest; origin and determination of forest types; the relation of forests to stream flow; description of forests; preparation of forest maps; improvement of young forests; and the proper cutting and use of mature forests so as to secure natural reproduction; silvicultural systems of cutting as practiced in the forests of Europe and the United States.

The second part deals with the species suitable for shade trees and for planting in shelter-belts, wind-breaks and woodlots; cost of planting; care of shade trees, parks and tree plantations; elementary tree surgery.

Text: *Principles of Handling Woodlands*, Graves. Lectures and field work.

(Elective in I, all groups; C).

DEPARTMENT OF HISTORY.

Professor McDonald.

207. *Europe Since 1815*. (3-0).

The aim of this course is to help the student acquire a comprehensive view of the forces and movements of the nineteenth century which culminated in the World War in the twentieth century, including the reaction of the Revolutionary and Napoleonic era, the industrial revolution, democratic reforms, nationalism, commercialism, imperialism, international rivalries, the League of Nations, and reconstruction following the war.

(Required in XIV).

208. *Industrial History of the United States.* (3-0).

In this course the industrial progress of the United States will be studied. The expansion of territory, development of natural resources, growth of commerce, organization of labor and capital, and the trade and fiscal policies of the government will be considered. Contemporary industrial problems will receive attention.

(Required in XIV).

305. *Citizenship.* (3-0).

The purpose of this course is to prepare the student to render effectively the public services of a useful citizen, by helping him acquire the common fund of political knowledge which should be the asset of every citizen; by acquainting him while in college with the political issues of the day; by grounding him in the fundamental principles of civil liberty and the rights of private property, and by helping him see how hardly democracy was won and how easily it may be lost.

Lectures, readings and discussions.

(Required in XIII, XIV; elective in I).

306. *Citizenship.* (3-0).

Same as course 305.

(Required in all four-year engineering courses).

307. *Europe Since 1815.* (3-0).

Same as course 207.

(Elective in all four-year courses, except XI, XII, XIII).

308. *Industrial History of the United States.* (3-0).

Same as course 208.

(Required in XIII; elective in all other four-year courses except XI, XII).

312. *Latin-American History.* (3-0).

To acquaint the student with the essential facts as to the rise and progress of Latin-America, and the interdependence of the United States and the Latin-American states, is the purpose of this course. The eras of conquest, colonization, revolution and independence; the new industrial order, intellectual evolution, Latin spirit and culture, and struggle for orderly government; and the growth of Pan-Americanism, will be studied.

(Required in XIV).

DEPARTMENT OF HORTICULTURE.

Professor Kyle, Professor Potts, Associate Professor Hensel, Assistant Professor Adriance, Mr. Cole, Mr. Westcourt.

201. *Plant Propagation and Orcharding.* (2-2).

Lectures and recitations are given on the fundamental principles and methods of plant propagation, including vegetables, fruits and ornamentals. The methods of planting and managing the home orchard are also covered.

Lectures and recitations.

Practice is given in propagation of plants from seed, budding, grafting, and in planning, planting, pruning, spraying, and general care of the home orchard.

Text: *Plant Propagation*, Kains. Lectures. Laboratory fee, \$0.75.

Prerequisite: Biology 101, 102.

(Required in I, XII, XIV).

202. *Vegetable Gardening.* (2-2).

Detailed instructions in planning, planting, equipping and operating vegetable gardens, with special reference to the needs of the home. Canning and storage of vegetable crops for home use also receives consideration.

Text: *Garden Farming*, Corbett. Lectures and references.

The practice is devoted to planning, planting and cultivating a small garden, equipping, fertilizers, spraying, harvesting, erection of hotbeds and cold frames. Laboratory fee, \$0.50.

(Required in I, XII, C; elective in XIV).

301. *Spraying.* (1-4).

The history and development of spraying in the United States and foreign countries is studied, special attention being given to the evolution of spraying machinery, formulas, and their practical application to Texas conditions.

Lectures and recitations.

Practical work in making various spraying mixtures for insects and diseases and applying the preparation to orchard and vegetable crops. Laboratory fee, \$1.00.

Prerequisite: Entomology 201.

(Elective in I, groups 3, 9).

302. *Plant Breeding.* (2-2).

This course is planned to give the student a better understanding of the benefits to be derived from the intelligent breeding of plants. The history and principles of plant breeding are studied in detail; the relation of horticultural varieties and hybrids to each other and to their parents is discussed,

together with the principles of pollination, hybridizing and crossing.

The practice work includes a detailed study of biometrical facts as applied to heredity and variation; the cross pollination of our most common horticultural plants.

Text: Plant Breeding, Bailey and Gilbert.

Prerequisite: Agronomy 305; Horticulture 201, 202.

(Required in I, group 9; elective in I, group 8).

303. *Principles of Fruit Production.* (3-2).

This course includes a comprehensive study of orchard management, including problems of location, soils, planting, cultivating, protection from insects and diseases, pruning, harvesting and marketing.

The laboratory work consists of the actual practice in orchard work from planting to marketing.

Text: Principles of Fruit Growing, Bailey. Lectures and recitations. Laboratory fee, \$1.00.

Prerequisite: Horticulture 201.

(Required in I, groups 8, 9; elective in I, groups 2, 4; C).

304. *Nut Culture.* (2-4).

This course includes a study of those nuts which are of the most economic importance. Special attention is given to the native nuts. Top-working the native pecan and hickory to improved varieties of pecans is fully discussed.

Lectures and recitations.

Practice is given in budding and grafting pecans in the nursery row; also in top-working native pecans to improved varieties by means of the ring, patch, chip, crown budding and grafting. A systematic study is made of the standard varieties of nuts. Laboratory fee, \$0.75.

Prerequisite: Horticulture 201.

(Elective in I, group 9; C).

307. *Introduction to Landscape Art.* (2-2).

A course designed both for students specializing in Landscape Design and for those wishing a general course, sufficiently comprehensive to enable them to properly plan small home and school grounds.

Practice will consist of the drawing of plans for the small home grounds, school grounds and other public and semi-public places.

Illustrated lectures, recitations and simple problems.

(Required in I, group 10; elective in group 9).

308. *History of Landscape Design.* (2-0).

A comprehensive study of the development of landscape design.

Illustrated lectures and recitations.

(Required in I, group 10).

312. *Vegetable Gardening.* (2-2).

Same as course 202.

(Required XV).

401. *Systematic Pomology.* (3-2).

A technical course covering deciduous fruits, their identification, classification, distribution, importance, and history, and a detailed study of the more important species and varieties.

Practice is given with such fruits as can be obtained during the season. Laboratory fee, \$4.00.

Prerequisite: Horticulture 303.

(Required in I, group 9).

404. *Commercial Horticulture.* (2-2).

This course includes a study of the most satisfactory methods of harvesting, grading, packing, shipping, storage and selling of fruits and vegetables. Cooperation and the various other selling agencies receive attention.

Lectures and recitations. Laboratory fee, \$2.00.

Prerequisite: Horticulture 202, 303.

(Elective in I, group 9).

405. *Bush and Vine Fruits.* (2-2).

This course consists of a study of the propagation, culture, harvesting and marketing of small fruits, such as the blackberry, dewberry, strawberry, currant, grape, etc. Attention is given to the varieties best adapted to Texas conditions.

Lectures and recitations.

Practice is given in planning, planting, pruning, spraying and general field management.

(Elective in I, group 9).

407. *Introduction to Landscape Art.* (2-0).

Same as course 307.

(Required in I, group 2).

408. *Floriculture.* (2-2).

This course is designed to give the student a detailed knowledge of the culture and use of the annuals, perennials, and bulbous plants especially adapted to our climatic conditions. Home adornment with flower beds, flower borders, window boxes, and plants for the living room will be the salient thought throughout the course.

Practice will be given in the growing, transplanting and care of a few of the most useful plants.

Lectures and recitations. Laboratory fee, \$2.00.

(Required in I, group 10; elective in group 9).

409. *Ornamentals. (2-2).*

This course embraces a thorough study of the ornamentals adapted to Southern conditions.

Lectures and recitations.

Practice is given in the propagation and classification of ornamentals. Laboratory fee, \$2.00.

(Required in I, group 10).

412. *Horticultural By-products. (1-4).*

This course is designed to enable the grower to utilize surplus products of the orchard and garden or to save by canning the higher grades when prices are low.

Lectures and recitations.

Practice is given in the manufacture of fruit juices, preserves, jelly, soup stock, canning, and drying. Laboratory fee, \$1.00.

(Elective in I, group 9).

413. *Seminar. (0-2).*

This course is planned to cover, by informal discussions, a large number of timely horticultural topics. Any problems the horticultural student meets may be submitted for discussion. A rather complete review of horticultural books, journals, and periodicals is made. Time is also given to study market and storage reports.

(Required in I, group 9).

415. *Landscape Design. (3-4).*

This course gives the principles underlying Landscape Art. It also deals with the solving and drafting of problems dealing with landscape work.

Lectures and recitations.

Text: Landscape Architecture, Hubbard and Kimball.

Prerequisite: Horticulture 307.

(Required in I, group 10).

416. *Landscape Design. (3-2).*

A continuation of course 415.

Text to be assigned.

(Required in I, group 10).

417. *Civic Improvement. (2-0).*

This course deals more especially with the proper laying out of towns and cities, and includes the fundamental principles of city planning; the study of streets, sidewalks, civic centers, and the general improvement of public and semi-public properties.

Text: City Planning, C. M. Robinson.

(Required in I, group 10).

419, 420. *Experimental Horticulture.* (1-0; 0-4).

A study of research methods and the planning and execution of a project along horticultural lines. The student is expected to become thoroughly familiar with all phases of his problem and to execute the work in a creditable manner. The project statement must be submitted by December 15th and completed by commencement.

Lectures and assignments.

(Required in I, group 9).

422. *Subtropical Fruits.* (3-2).

A study of all the species of subtropical fruits. Special attention is given to the growing of citrus, figs, olives, dates, and other hardy varieties of tropical and subtropical fruits.

Lectures and recitations.

Practice in the study of the various fruits and in the propagation of the different species of subtropical trees. Orchard heating to protect tender plants is given attention.

Laboratory fee, \$4.00.

(Elective in I, groups 8, 9).

FOR GRADUATES.

501, 502. *Advanced Fruit Growing.* (3-4). *Major.*

This course will include an advanced study of fruit production. Special attention will be given to the problems of cultivation, fertilization, pruning, thinning of fruit and protection from frost and insect pests and disease. A special study will be made of the improvement of fruit by means of bud selection.

Prerequisite: Horticulture 302, 303, 401 or equivalent work.

501a, 502a. *Advanced Fruit Growing.* (2-4). *Minor.*

A modification of course 501, 502.

503, 504. *Advanced Vegetable Gardening.* (3-4). *Major.*

In this course an advanced study will be made of the latest methods used in the successful production of vegetables for market and truck gardening purposes. A special study will be made of the systems of irrigation. Considerable time will also be devoted to a study of the more advanced methods of forcing plants for early market. This course will also include a study of the development of plants by breeding and selection.

Prerequisite: Biology 101, 102, Horticulture 202, 301, 404, 420, or equivalent work.

503a, 504a. *Advanced Vegetable Gardening.* (2-4). *Minor.*

A modification of course 503, 504.

505, 506. *Advanced Landscape Art. (3-4). Major.*

Advanced landscape design, including the gathering of data, making of preliminary reports, detailed working plan, specifications, including nursery list of prices, and a finished water color rendering of the problem assigned.

Prerequisite: Civil Engineering 319, Drawing 316, Horticulture 407, 415, 416, or equivalent work.

505a, 506a. *Advanced Landscape Art. (2-4). Minor.*

A modification of course 505, 506.

FOR STUDENTS IN SHORT COURSES.

21. *Plant Culture and Propagation. (2-2).*

A modification of course 201. The first part is devoted to plant culture, and is followed by a thorough discussion of the propagation of plants, including fruits, ornamentals, and vegetables.

Lectures and recitations.

Practice work in the propagation of seedlings and the different forms of budding and grafting, layering, etc. Laboratory fee, \$0.75.

Text: Principles of Plant Culture, Goff.

(Required in C).

DEPARTMENT OF MATHEMATICS.

Professor Puryear, Professor R. F. Smith, Associate Professors J. W.

Mitchell, Halperin; Assistant Professors D. C. Jones, Bond,

Porter, Cox, Mr. Gayden.

101, 102. *Algebra. (3-0).*

A rapid review of elementary topics, followed by the study of quadratic equations, the binomial theorem, variation, the progressions, complex numbers; elementary theory of equations, logarithms, limits, undertermined co-efficients.

Review of certain topics of preceding courses.

Text: College Algebra, Rietz and Crathorne. Supplementary Exercises.

(Required in all four-year engineering courses and in IX, XIII).

103. *Plane Trigonometry. (3-0).*

Goniometry, review of logarithms, solution of right triangles, problems of heights and distances, properties of triangles, solution of oblique triangles, geometrical applications.

Text: Plane and Spherical Trigonometry, Taylor and Puryear.

(Required in all four-year engineering courses and in IX, XIII).

104. *Analytics.* (3-0).

The straight line, transformation of coordinates, circle, ellipse, parabola, hyperbola, graphs of trigonometric, logarithmic and exponential functions, tangents.

Review of certain topics of preceding courses.

Text: *Analytic Geometry*, Riggs. Supplementary Exercises.

Prerequisite: Mathematics 101, 103.

(Required in all four-year engineering courses and in IX, XIII).

118. *Solid Geometry.* (3-0).

Definitions, lines and planes in space, dihedral angles, polyhedral angles, polyhedrons, the cylinder, cone and sphere.

Text: *Solid Geometry*, Wentworth-Smith.

(Required as an extra study of Freshmen in the School of Engineering who do not present solid geometry for admission).

203, 204. *Calculus.* (5-0).

Differentiation, limits, infinitesimals, integration, maxima and minima, areas, volumes, water pressure, work, introduction to solid geometry, moment of inertia, center of gravity, radius of curvature, elementary examples of differential equations.

Review of certain topics of preceding courses.

Text: *Calculus*, March and Wolff. Supplementary Exercises.

Prerequisite: Mathematics 104.

(Required in III, IV, V).

205. *Calculus.* (5-0).

A modification of courses 203, 204.

Prerequisite: Mathematics 104.

(Required in VI, VIII, IX, XV).

211. *Algebra.* (3-0).

Same as course 101.

(Required in XIV).

212. *Trigonometry.* (3-0).

Same as course 103.

(Required in XIV).

DEPARTMENT OF MECHANICAL ENGINEERING.

Professor Fermier, Professor H. E. Smith, Associate Professors Eaton, Mercer, Assistant Professor Hutton, Mr. Chappelle, Mr. Milton, Mr. Crawford, Mr. Downard, M. Kunz, Mr. Laursen, Mr. Shannon.

101, 102. *Elementary Mechanics.* (1-0).

The work of this course consists of lectures, quizzes, and problems involving those principles of mechanics which are more commonly used in all branches of engineering and gives the student some contact with elementary engineering work.

Each student is required to keep a note-book for the special problems, which are numerous.

Text: Special pamphlet.

Prerequisite: Mathematics 103.

(Required in all four-year engineering courses and in XIII).

103. *Woodwork.* (0-3).

Shop practice in the use of the common bench tools and power machinery for working in wood, as applied to joinery, elements of construction, and cabinet making. Practice in the use of shop records, systems, etc., is also given. Special work will be provided for those who have had manual training before entering. Laboratory fee, \$1.50.

(Required in all four-year engineering courses, XIII, M).

104. *Forging.* (0-3).

Shop practice in the use of blacksmith and general forge tools in the working of iron and steel. Also tempering, annealing, welding, case-hardening, etc. Laboratory fee, \$1.50.

(Required in all four-year engineering courses, XIII, M).

NOTE.—Courses 103 and 104 together constitute a year's work, three hours a week. Freshmen in all four-year engineering courses will be divided into two groups at the beginning of the first term; one group will begin with course 103 and the other with course 104. At the beginning of the second term the groups will each change to the other work.

201. *Pattern Making and Foundry Work.* (0-3).

Shop practice in pattern making, molding, and casting in iron, brass, etc. Laboratory fee, \$2.00.

Prerequisite: Mechanical Engineering 103.

(Required in III, V, XIII).

202. *Pattern Making and Foundry Work.* (0-3).

A continuation of course 201. Laboratory fee, \$1.50.

(Required in III).

205. *Elementary Steam Engineering.* (2-0).

This course aims to give the student such a knowledge of

steam power plant equipment as will enable him to understand the operation of the same, and serve as a foundation for subsequent study and calculation along these lines. Value gears, valve diagrams, and indicator practice are also included.

Text: *Elementary Steam Engineering*, Spangler.

Prerequisite: Mathematics 103, Mechanical Engineering 101, 102.

(Required in IV, VI).

206. *Elementary Steam Engineering*. (4-3).

An elaboration of course 205, with practice in mechanical engineering laboratory and power plant. Laboratory fee, \$1.00. (Required in VIII).

207. *Kinematics*. (2-2).

Without taking account of the strength of the structure, this course takes up the study of motion, velocity ratios, comparative forces, etc., in machines and their elemental parts.

Text: *Mechanism*, Keown.

Prerequisite: Mathematics 104.

(Required in III, VI).

209. *Machine Shop*. (0-3).

Same as course 309. Laboratory fee, \$1.50.

(Required in XV).

212. *Engineering Mechanics*. (3-0).

A study of pure mechanics as the foundation principles involved in the analytical solution of problems concerning the statics and dynamics of a material point and of a rigid body; with numerous numerical examples from practical engineering questions.

Prerequisite: Mathematics 203, Mechanical Engineering 101, 102.

Must be preceded or accompanied by Mathematics 204. (Required in III).

214. *Machine Shop Practice*. (0-3).

A modification of 309, 310. Laboratory fee, \$1.00.

(Required in V).

302. *Steam Engines and Boilers*. (5-0).

A study of fuels; combustion; the generation of steam; the construction, operation, care, design and testing of boilers of various types, together with the design of chimneys and other means of producing draft. Also a study of the elementary thermodynamics of heat engines, the mechanics, construction, design, operation and testing of the steam engine.

Text: *Heat Engines*, Allen and Bursley.

Prerequisite: Mathematics 204, Chemistry 101, 102, Physics 203, 204.

(Required in V).

303, 304. Machine Design. (0-3, 0-4).

This course consists of practice in the design of machine elements, and their proper representation by finished shop drawings.

Text: No text is required, but each student is required to have a Mark's hand-book.

Prerequisite: Mathematics 204, Mechanical Engineering 212; must also be preceded or accompanied by Civil Engineering 305 and Mechanical Engineering 313.

(Required in III).

307. Kinematics. (2-2).

The same as course 207.

(Required in V).

309. Machine Shop. (0-3).

Practice in bench and machine tool work in metals. This includes chipping, scraping, filing, babbiting, pipe fitting, drilling, turning, boring, grinding, milling machine work, etc. Laboratory fee, \$1.50.

Prerequisite: Mechanical Engineering 104.

(Required in III, VI, XIII).

310. Machine Shop. (0-3).

A continuation of course 309, including also tool making and heat treatment of steel. Laboratory fee, \$1.50.

(Required in III, XIII).

311. Carpentry and Cabinet Making. (0-3).

This course consists of the following two lines of practice:

(a) The carpentry of wood building construction, in which will be included making out bills of lumber and hardware for building, laying out rafters, stairs, etc., methods of framing, inside finish, etc.

(b) Cabinet making, including wood seasoning, accurate construction in hardwood, wood finishing, making of mill bills, also a limited amount of designing of simple cabinets. Laboratory fee, \$2.00.

Prerequisite: Mechanical Engineering 103.

(Required in XIII).

313, 314. Engineering Mechanics. (3-0).

A continuation of course 309, including also tool making dynamics of rotation, work, energy, friction, impact, etc.

(Required in III).

317. Engineering Mechanics. (4-0).

A modification of courses 212, 313, 314.

(Required in V).

319. *Engines and Boilers.* (4-0).

Same as course 302.

(Required in III).

320. *Thermodynamics.* (4-0).

This course embraces a study of the effects of heat upon gases, and the application of thermodynamic laws and principles to the steam engine, gas engine, hot-air engine, injectors, calorimeters, etc., together with a study of heat efficiencies of these machines and instruments.

Text: Applied Thermodynamics for Engineers, Ellis.

Prerequisite: Mechanical Engineering 319.

(Required in III).

333. *Forging.* (0-3).

Same as course 104. Laboratory fee, \$1.50.

(Required in I, group 3).

403, 404. *Engineering Laboratory.* (0-4).

Instruction and practice in testing gauges, indicators, fans, pumps, boilers, engines, etc.; also a study of the actual mechanical operation of various machines.

In addition to the work with the apparatus, the students will be expected to make calculations and written reports on the investigations and the results obtained. Laboratory fee, \$1.00 each term.

Prerequisite: Mechanical Engineering 319, 320.

(Required in III).

407. *Thermodynamics.* (2-0).

A continuation of course 320, with special reference and application to refrigeration.

(Required in III, group 1).

410. *Gas Engines.* (3-0).

The application of the principles of thermodynamics to the design of gas engines. Also the study of the different cycles, methods of governing, and some details of design construction, operation and care of various types of gas engines and other internal combustion motors.

Prerequisite: Mechanical Engineering 407.

(Required in III).

412. *History and Biography.* (3-0).

A study of the lives of men who have been contributors to engineering development. Also a study of the history of the development of appliances and invention in mechanical engineering.

Lectures and reference reading are the sources of material for this course, for which no text-book is required.

Prerequisite: Junior or Senior classification.

(Required in III).

414. *Steam Turbines.* (2-0).

A study of the types and designs of steam turbines, their efficiencies and their operation.

Prerequisite: Mechanical Engineering 320.

(Required in III, group 1).

415, 416. *Engineering Laboratory.* (0-3).

A modification of course 403, 404. Laboratory fee, \$1.00. each term.

(Required in V).

417, 418. *Power Plants and Equipment.* (2-4).

A study of the design of power plants, and their equipment is taken up in this course. Choice and arrangement of equipment are studied from the standpoint of economy of material and labor, as well as from the standpoint of general efficiency.

Text: Fernald and Orrok, *Engineering of Power Plants.*

Prerequisite: Mechanical Engineering 320.

(Required in III, group 1).

419, 420. *Industrial Engineering.* (3-2).

A study of the industrial plant, including building and equipment; from the standpoint of health of workers as well as from the standpoint of suitability for the industrial processes involved.

Lectures and collateral reading are the chief sources in this course. Practice will include reports, also detailed sketches and drawings covering definitely chosen conditions.

Prerequisite: Senior classification.

(Required in III, group 2).

421, 422. *Methods and Management.* (2-0).

A study of the general principles of shop management and shop methods as used in plants and factories whose output is largely the product of machine tools and similar equipment.

(Required in III, group 2).

423, 424. *Transportation.* (2-0).

A study of general means of transportation from the standpoint of commerce as well as the conveying of materials in industrial plants and in construction work.

Lectures and collateral reading are the sources of subject matter for this course.

Prerequisite: Senior classification.

(Required in III, group 3).

425, 426. *Railway Mechanical Engineering.* (2-4).

A study of types and the design of railway rolling stock and a study of locomotive performance. Laboratory fee, \$1.50 each term.

Prerequisite: Mechanical Engineering 319.
(Required in III, group 3).

FOR STUDENTS IN SHORT COURSES.

21, 22. *Power and Heat.* (4-0).

A study of shop mathematics, elementary mechanics, and the fundamentals of fuels, and heat as a source of power.
(Required in H, N).

25. *Forging.* (0-4).

A modification of course 104.
(Required in H, M, N).

26. *Woodwork.* (0-4).

A modification of course 103.
(Required in H, M, N).

61, 62. *Foundry and Machine Shop.* (0-3).

A modification of 71, 72. Laboratory fee, \$1.00 each term.
Prerequisite: Mechanical Engineering 25, 26.
(Required in H, N).

63, 64. *Engineering Laboratory.* (0-3).

A modification of course 403, 404. Laboratory fee, \$1.00 each term.
(Required in N).

65, 66. *Shop Methods.* (3-2).

(Required in N, group 2).

71, 72. *Foundry and Machine Shop.* (0-5).

A modification of courses 201 and 214. Laboratory fee, \$2.00 first term and \$1.50 second term.
(Required in N).

75, 76. *Steam Engines and Boilers.* (4-0).

A modification of course 302, with special emphasis on the practical work,
Prerequisite: Mechanical Engineering 21, 22.
(Required in H, N).

DEPARTMENT OF MILITARY SCIENCE AND TACTICS.

Professor: Major Dougherty. Professors: Major Morris, Major Russell, Captain Bals, Captain Kurtz. Assistant Professors: Captain Tuttle, Captain de Rohan, Captain Wilson, Captain Horne. Assistant Instructors: Warrant Officer Griffin, Master Sergeant Rabke, First Sergeant Cody, Sergeant Dwigg.

INFANTRY UNIT.

Assistant Professor: W. H. H. Morris, Jr., Major, Infantry.

Assistant Professor: F. J. de Rohan, Captain, Infantry.

Assistant Professor: A. L. Tuttle, Captain, Infantry.

Assistant Instructors: First Sergeant T. Cody, Infantry; Sergeant D. M. Dwigg, Infantry.

101. (1-2).

(a) Theoretical: Military Organization; Military Courtesy and Discipline; Infantry Drill.

(b) Practical: Physical Training; Infantry Drill.

102. (1-2).

(a) Theoretical: Infantry Drill; Guard Duty; Personal Hygiene, Sanitation and First Aid; Military Ceremonies.

(b) Practical: Physical Training; Infantry Drill; Guard Duty; Bayonet Exercises; Preliminary Target Practice; Gallery Practice; Rifle Practice; Military Ceremonies; Field Maneuvers.

201. (1-2).

(a) Theoretical: Infantry Drill (school of the company); Military Sketching and Map Reading.

(b) Practical: Infantry Drill; Physical Training; Machine Guns; Automatic Rifles.

202. (1-2).

(a) Theoretical: Military Sketching and Map Reading; Minor Tactics for a Non-Commissioned Officer.

(b) Practical: Military Sketching; Minor Tactics; Range Practice; Maneuvers.

301. (3-2).

(a) Theoretical: Minor Tactics for a Lieutenant; Field Engineering.

(b) Practical: Infantry Drill (act as a line); Physical Training; Pistol Practice; Field Engineering; Hand and Rifle Grenades.

302. (3-2).

(a) Theoretical: Minor Tactics continued for a Lieutenant; Field Engineering continued.

(b) Practical: Infantry Drill (act as a lieutenant); Maneuvers (act as a lieutenant); Field Engineering; One Pound Gun; Trench Mortar.

401. (3-2).

(a) Theoretical: Minor Tactics for a Captain and Field Officer; Military Law.

(b) Practical: Minor Tactics (act as a captain and field officer); Physical Training; Musketry; Infantry Drill (act as a captain or field officer).

402. (3-2).

(a) Theoretical: Minor Tactics for a Captain and Field Officer; Military History and Policy; Military Administration.

(b) Practical: Minor Tactics (act as a captain and field officer); Musketry; Infantry Drill (act as a captain or field officer).

ARTILLERY UNIT.

Professor: Major L. R. Dougherty. Assistant Professor: Captain C. D. Horne. Assistant Professor: Captain R. W. Wilson.

103. (1-2).

(a) Theoretical: Field Artillery drill regulations and field gunnery. The elements of the trajectory and the calculation of the same, gunners' instruction, calculation of firing data.

(b) Practical: School of the soldier, school of the squad, battery foot drill, standing gun drill, the firing battery. Interior guard duty. Manual of the pistol.

104. (1-2).

(a) Theoretical: Field artillery ordnance. Guns, ammunition, sights, fire control instruments, telephones, projectors, etc., types, construction, mechanical principles, designs, use and care.

(b) Practical: Use and care of individual equipment. Cannoneers' instruction in the service of the piece, and preparation for gunners' examination.

203. (1-2).

(a) Theoretical: Military Science. Artillery trucks and tractors, gas engines, design, operation and care.

(b) Practical: Equitation, the soldier mounted. Care and management of the horse.

204. (1-2).

(a) Theoretical: Field artillery topography and reconnaissance.

(b) Practical: Draft and driving, the battery mounted. Occupation of position.

303. (3-2).

(a) Theoretical: Field artillery gunnery and firing.

(b) Practical: The battery mounted. Hippology and stable management. Conditioning and training of the artillery horse.

304. (3-2).

(a) Theoretical: Field artillery tactics. Organization, communication and field engineering.

(b) Practical: Smoke bomb practice. Reconnaissance.

403. (3-2).

(a) Theoretical: Military history and policy of the United States. Minor tactics and map maneuvers.

(b) Practical: Duties of the officers of field artillery in the battery, battalion and regiment mounted. Smoke bomb practice. Training as instructors.

404. (3-2).

(a) Theoretical: Military law. Administration and army paper work.

(b) Practical: Same as 403 (b).

SIGNAL CORPS UNIT.

Assistant Professor: Captain Lawrence A. Kurtz, S. C.

Assistant Instructor: Master Sergeant Frank Rabke.

105. (1-2).

(a) Theoretical: Organization of army, hygiene, first aid, military courtesy, interior guard duty, infantry drills, automatic pistol.

(b) Practical: Drill, visual signalling.

106. (1-2).

(a) Theoretical: Lectures in military and commercial telephone line construction.

(b) Practical: Drill, international code, message sending by telegraph, telegraph operating, commercial and military telephone line construction.

205, 206. (1-2).

(a) Theoretical: Lectures in army organization, lines of communication, military telephones, map reading and making, and technical equipment used by Signal Corps.

(b) Practical: Drill, projector signalling, visual signalling, field buzzer, telephones, military map making, construction of telephone lines, operation of switchboards, radio telegraph operation in the field.

309a, 310a. (1-2, 0-2).

(a) Theoretical: Drill, minor Tactics of line troop, Field Engineering, organization and tactics of all arms to include Division Signal Tactics, Military Law and rules of land warfare, message centers, codes and ciphers.

(b) Practical: Putting the above theoretical work into field practice.

In addition to the above the student must complete Electrical Engineering 309 and 310.

(Elective in V).

405a, 406a. (0-2, 0-4).

(a) Theoretical: Military History and Policy of the United States, Administration, Hippology, Staff Organization and Duties, Telephone Net Construction.

(b) Practical: Handling of organizations in practical signal corps field duty, technical and tactical operation of radio telegraph and technical operation of radio telegraph and telephone ground radio, telephones.

In addition to the above the student must complete Electrical Engineering 409 and 410.

(Elective in V).

CAVALRY UNIT.

Assistant Professor: Captain W. T. Bals, Cavalry. Assistant Instructor: Warrant Officer George O. Griffin.

107. (1-2).

(a) Theoretical: Organization and Administration; Military Hygiene; First Aid; Sanitation; Military Courtesy and Customs; Cavalry Drill Regulations to include the School of the Troop; Interior Guard Duty; Signalling; Care of Animals and Equipment.

(b) Practical: Organization of a Unit; Exercise in First Aid; Camp Site Selection and Expedients, Sand Table; Performance of Guard Duty; Signalling Drills; Cavalry Drill to include School of the Troop; Equitation; Care of Animals and Equipment; Physical Training.

108. (1-2).

(a) Theoretical: Cavalry Drill Regulations to include School of the Troop; Ceremonies and Inspections; Cavalry Weapons, pistol, saber, rifle; The Cavalry Pack; Minor Tac-

tics; Patrols; Message and reports; The Theory of Equitation; Preliminary Range Instruction.

(b) Practical: Cavalry Drill to include the School of the Troop; Ceremonies and Inspections; Preliminary Range Instruction; Gallery Practice; Range Practice; The Pistol, Dismounted; Saber Exercise; Patrolling, mounted and dismounted; Message Carrying and Reports; Equitation and Jumping; Physical Training.

207. (1-2).

(a) Theoretical: Map Reading and Military Sketching; Cavalry Drill, Close and Extended Order including School of the troop; Ceremonies and Inspections; Cavalry Combat; Development and Employment of Cavalry; March Discipline and Routine.

(b) Practical: Instructors in 107 (b), 108 (b); Problems in Map Reading; Sketching; Road Sketch; Outpost Sketch; Position Sketch; Physical Training; Park Riding; Cavalry Drill to include School of the Troop; Equitation and Jumping; Ceremonies and Inspections; Cavalry Combat (Troop); Practice Marches.

208. (1-2).

(a) Theoretical: The Cavalry Pack, dismounted; Cavalry weapons, rifle, pistol, automatic rifle, machine gun; Cavalry Drill to include School of the Troop; Equitation and Jumping; Minor Tactics; Covering Detachments; Advance Flank Rear Guards; Outposts.

(b) Practical: Instructors in 107 (b), 108 (b); Cavalry Drill to include School of the Troop; Ceremonies and Inspections; Cavalry Combat; Equitation and Jumping; Practice Marches; Cavalry Pack, mounted; Preliminary Instruction in Marksmanship, Gallery and Range Practice; The automatic Rifle and Machine Guns; Minor Tactics, Tactical Walks, Tactical Exercises, Physical Training.

307. (3-2).

(a) Theoretical: Field Engineering; Park Riding; Cavalry Drill to include School of the Regiment; Cavalry Combat, Squadron and Higher Units; Hand and Rifle Grenades; Trench Mortar and One Pounder; Light Artillery; Equitation and Jumping; Ceremonies and Inspection.

(b) Practical: Instructors in 107 (b), 108 (b), 207 (b), 208 (b); Cavalry to include the School of the Troop; Military Field Engineering Problems; Cavalry Combat; Tactical Exercises; Tactical Ride; Hand and Rifle Grenades; Trench Mortar and One Pounder; Ceremonies and Inspections; Equitation and Jumping.

308. (3-2).

(a) Theoretical: Principles in Musketry; Hippology; Selection and Care of Animals; Horseshoeing; Cavalry Drill to include the School of the Troop; Cavalry Combat; Tactical Rides and Exercises; Equitation and Jumping.

(b) Practical: Instructors in 107 (b), 108 (b), 207 (b), 208 (b); Practical Packing; Selection and Care of Animals; Horseshoeing; Cavalry Drill to include School of the Troop; Cavalry Combat Tactical Rides and Exercises; Equitation and Jumping.

407. (3-2).

(a) Theoretical: Military History and Policy of the United States; Cavalry Drill including School of the Regiment; Military Law and Rules and Land Warfare; Equitation and Jumping; Ceremonies and Inspections.

(b) Practical: Instructors in 107 (b), 108 (b), 207 (b), 208 (b); Cavalry Drill to include School of the Troop; Cavalry Combat; Tactical Walks and Exercises; Park Riding; Practical Packing; Ceremonies and Inspections.

408. (3-2).

(a) Theoretical: Minor Tactics; Field Service Regulations; Map Maneuvers, Relief Maps, Sand Table Problems; Administration; Packing and Transportation; Cavalry Drill including School of the Regiment; Field Exercises; Advanced Equitation.

(b) Practical: Instructors in 107 (b), 108 (b), 207 (b), 208 (b); Leaders in Tactical Exercises; Tactical Leaders; Participation in Tactical Exercises as Leaders; Cavalry Combat; Ceremonies and Inspections; Cavalry Drill to include School of the Troop; Advanced Equitation; Practical Packing.

AIR SERVICE UNIT.

Assistant Professor: C. W. Russell, Major, Air Service.

109, 110. (1-2). *Elementary Subjects of Military Training.*

(a) Theoretical: Organization and Administration of Company and Squadron; Duties of Commanders; Military Hygiene; First Aid and Sanitation; Military Courtesies and Customs of the Service; Interior Guard Duty; Infantry Drill; Nomenclature, care and handling of pistol and rifle; Communications, visual signalling and buzzer; Elementary Electricity and Radio; Construction and Operation of Telephone Lines; History of Aeronautics; Employment of Air Service, Air Service Organization.

(b) Practical: Organizing the Unit, assignment of leaders; First Aid Demonstrations; Performance of Guard Duty; Infantry Drill; Rifle and Pistol Practice; Visual Signalling and Buzzer.

209, 210. (1-2).

(a) Theoretical: Military Sketching and Map Reading; Infantry Drill, Principles of leadership; Air Service Weapons, automatic rifle and aerial machine guns; Aerial Sights and Principles of Aerial Gunnery; Synchronized Gears; Minor Tactics, patrolling maneuvers, messages and reports, outposts and covering detachments; Communications, radio operations section; Assembly of Radio Sets.

(b) Practical Map Sketching, Infantry drill; Machine Gun, rifle and pistol firing; Nomenclature and Stripping of Machine Guns; Problems in Minor Tactics; Radio.

309, 310. (3-2).

(a) Theoretical: Field Engineering, construction of trenches and obstacles; Minor Tactics, offensive and defensive, conduct of small units; Artillery and Infantry Liaison; Radio Aerial Photography, types of cameras, interpretation of aerial photographs, map making from aerial photographs; Aeronautical engines, Principles of engines, carburetors, ignition, lubrication, cooling, trouble shooting, types of engines; Aerial Gunnery; Aerial Bombing.

(b) Practical: Trench Construction; Map Maneuvers; Radio Practice; Construction of Mosaic from Aerial Photographs; Assembling Aeronautical Engines, engine running.

409, 410. (3-2).

(a) Theoretical: Military History and Policy of the Policy of the United States; Development of Aeronautics; Military Law and Rules of Land Warfare; Administration of the Squadron; Advanced Radio Communications; Aerial Navigation and Meteorology; Air Service Organization, operations, aerial tactics, bombardment, pursuit and attack duties of Air Service Officers; Methods of Teaching Flying, airplanes, theory of flight, nomenclature, rigging, repair of machines; Airplane Instruments; Types of Airplanes.

(b) Practical: Radio communications; Aerial Navigation; Rigging, repair of machines, engine running.

FOR STUDENTS IN SHORT COURSES.

INFANTRY.

11, 12. (1-2).

Same as courses 101, 102.

51, 52. (1-2).

Same as courses 201, 202.

FIELD ARTILLERY.

13, 14. (1-2).

Same as courses 103, 104.

53, 54. (1-2).

Same as courses 203, 204.

CAVALRY.

17, 18. (1-2).

Same as courses 107, 108.

57, 58. (1-2).

Same as courses 207, 208.

DEPARTMENT OF MODERN LANGUAGES.

Professor Campbell, Associate Professor Bailiff.

In beginning courses a thorough drill in pronunciation, the essentials of grammar, and colloquial exercises, is given through daily oral and written exercises. The reading of simple texts is taken up as early as possible.

The work of the advanced courses consists in the reading of selected texts and magazines, with incidental grammar review and drill in the use of colloquial idioms. Short dictation exercises are frequently given. Special stress is laid upon sight reading. Parallel reading of from 150 to 300 pages of selected prose works is required. In French and German, the reading is gradually adapted to the scientific work of other departments; the texts read in Spanish will be literary and commercial.

The work in modern language is elective in all four-year courses, as shown under the several curricula, except in Course IX, group 1.

311, 312. *French*. (3-0).

Grammar and easy reading. (Required in IX, Group 1).

313, 314. *German*. (3-0).

Grammar and easy reading.

315, 316. *Spanish*. (3-0).

Grammar and easy reading.

421, 422. *French*. (3-0).

Reading of scientific and other texts. Parallel reading. (Required in IX, group 1).

423, 424. *German*. (3-0).

Reading of scientific and other texts. Parallel reading.

425, 426. *Spanish*. (3-0).

Reading of selected texts: composition; conversation. Parallel reading.

426b. *Spanish. (3-0).*

Commercial Spanish; reading of commercial and technical texts and periodicals; social and commercial correspondence.

Prerequisite: Course 425 or equivalent.

DEPARTMENT OF PHYSICS.

Professor Silvey, Associate Professor Grantham, Assistant Professors
McPheeters, Veazy, Lackey.

111, 112. *Agricultural Physics. (2-2).*

This course includes the phenomena of mechanics, heat, magnetism, current electricity and light that have application in the study of agriculture and agricultural engineering. Instruction is given by recitation, quizzes, problems and demonstrated lectures.

The practice includes measurements involving the laws of concurrent forces, moments, simple machines, specific gravity, calorimetry, current electricity, and the use of lenses in the common optical instruments. Laboratory fee, \$0.50. each term.

(Required in XI, and of students of agriculture not presenting physics for entrance).

203, 204. *General. (3-3).*

A general course in mechanics, heat, light, electricity and magnetism for engineering students.

In this course particular stress is laid on the derivation of the various formulas necessary for a thorough understanding of the mathematical relations existing in physical determinations. Much emphasis is placed on practical problems furnished by the instructors.

The practice includes about thirty experiments in the subjects named above. The work is, in general, quantitative. Laboratory fee, \$1.00 each term.

Text: Reed and Guthe's College Physics.

Prerequisite: Mathematics 101, 103. (See Entrance Requirements).

(Required in all engineering courses except V, IX).

205. *Agricultural Physics. (2-4).*

A course in the applications of mechanics, heat, magnetism, current electricity and light which function in the study of agriculture.

Prerequisite: Elementary Physics.

(Required in XII).

207, 208. *General. (3-2).*

This course is identical with course 203, 204, with the

ommission of electricity and magnetism. Laboratory fee, \$1.00 each term.

Prerequisite: Mathematics 101, 103.. See (Entrance Requirements).

(Required in V; IX, groups 1, 2).

301, 302. *Theoretical Physics*. (3-0).

PROPERTIES OF MATTER AND HEAT.

A course of junior grade for physics students in undergraduate study or for graduate students of other departments who may take this course as partial fulfillment of a minor in Physics.

This course includes a discussion of universal gravitation, elasticity, surface tension, diffusion, viscosity, mechanics of fluids, laws of heat transfer, kinetic theory, critical points, isothermal and adiabatic changes and the thermodynamics of changes of state and radiation.

The work is more descriptive than mathematical, but ample opportunity is offered to study the application of the Calculus to Physics.

Text: Properties of Matter: Heat: (Poynting and Thomson) or equivalents.

Prerequisite: Physics 203, 204 or 207, 208 and Mathematics 203, 204.

(Elective).

Courses 301, 302 and 303, 304 will be given in alternate years).

303, 304. *Theoretical Physics*. (3-0).

SOUND: ELECTRICITY AND MAGNETISM.

A course of junior grade for physics students in undergraduate study or for graduate students of other departments who may take this course as a partial fulfillment of a minor in Physics.

This course includes a discussion of wave theory, nature of sound, forced vibrations, resonance, analysis of vibrations, magnetism, magnetic induction and potential, electron theory, current electricity, electrostatic induction and potential, electromotive-forces, thermal effects, photoelectricity, electromagnetic induction and electromagnetic theory.

The work is more descriptive than mathematical, but ample opportunity is offered to study the application of the Calculus to Physics.

Text: Sound: Magnetism and Electricity. (Poynting and Thomson) or equivalent.

Prerequisite: Physics 203, 204, and Mathematics 203, 204. (Elective).

(Courses 303, 304 and 301, 302 will be given in alternate years).

305. *Theoretical Physics.* (2-0).

LIGHT.

A course of junior grade for physics students in undergraduate study or for graduate students of other departments who may take this course in partial fulfillment of the requirement of a minor in Physics.

This course includes a discussion of the wave theory of light, optical instruments, dispersion, spectroscopy, aberrations, refraction, interference, diffraction, polarization, double refraction and theories of refraction and reflection.

The treatment is non-mathematical.

Text: Edser's *Light For Students* or its equivalent.

Prerequisite: Physics 204 or 207.

(Elective).

307, 308. *Experimental Physics.* (0-4).

A laboratory practice course to supplement any of the courses in Theoretical Physics.

The experiments performed will be illustrative of the theory being discussed in the theoretical course. It is intended that this course will develop laboratory technique preparatory to research work.

Manual: Watson's *Practical Physics* or its equivalent.

This course must be preceded by, or taken in parallel with one of the courses in Theoretical Physics.

(Elective).

FOR STUDENTS IN SHORT COURSES.

11, 12. *Elementary.* (2-2).

Lectures, recitations, problems, and demonstrations in elementary mechanics, heat, sound, light, electricity and magnetism. The nature of the theory is indicated by the outline of the practice.

The practice includes measurements of precision with vernier and micrometer calipers and balances; curve plotting; accurate determination of length, volumes, densities, forces, moments, stress, expansion, heat exchange, refraction and reflection of light by various forms of lenses and mirrors; velocity of sound and the laws of vibrating strings; measurements of voltage, current, and resistance.

Multiple sets of apparatus permit laboratory experiments to be run parallel to the lectures and recitations. Laboratory fee, \$0.50 each term.

Text: *Practical Physics*, Millika and Gale.

(See Entrance Requirements).

(Required in H, N).

DEPARTMENT OF RURAL SCIENCE.

Professor Garnett.

301. *General Sociology.* (3-0).

This course traces the development of the more important social customs and institutions; analyses the social forces and processes determining the complexion of modern society; considers in detail the most outstanding present day social problems; and studies the principles basic to successful social organization.

Text: To be selected.

(Required in XIV).

302. *Rural Economics.* (3-0).

Same as course 401.

(Required in XIV).

401. *Rural Economics.* (3-0).

This course together with 402 is intended to give the student some understanding of the social and economic problems of country life, and to put him in touch with the movements and agencies now dealing with these problems. The work begins with an analysis of the conditions, forces and agencies influencing the life of the country dweller and of the country community. A detailed study is then made of each of these influences. This study will include consideration of the more important rural economics problems such as land policies, tenancy, agricultural credit, market problems, co-operative organizations, farm bureau activities, etc. Each student is expected to acquaint himself with the best literature bearing on each topic studied and then to formulate a definite program for dealing with the problem in some concrete situation.

Prerequisite: Economics 306.

Class outlines and assigned readings.

(Required in I, XII).

402. *Rural Sociology.* (3-0).

In this course, which should be regarded as a continuation of 401, the chief emphasis will be given to the social problems of country life. A detail study will be made of population questions; cityward drift; rural social mind; health problems; recreation; community organization; rural leadership; rural social institutions, the home, the school, the church, the press, etc. Each student on the basis of all obtainable facts as to the local situation, and in the light of the best examples of community organization will be expected to formulate a definite long time program for promoting the progress and development of some actual community in which he is interested.

Prerequisite: Rural Social Science 401.
(Required in I, all groups; XII, XIV).

403. *Agricultural Marketing Problems.* (3-0).

This course will include an analysis of price fixing forces; a survey of the marketing process for the leading types of farm products, especially those of Texas; and a study of the marketing activities and methods of co-operative associations, particularly those affiliated with the Farm Bureau. The marketing work of governmental agencies will also be reviewed.

Prerequisite: To be preceded by course 302 or accompanied by course 401.

Text: To be selected.
(Required in XIV; elective in I, XII).

404. *Community Organization.* (2-2).

After surveying the activities, relationships and plan of work of the various types of organizations in different parts of the country the principles basic to successful community organization will be formulated. Methods of training organization leaders and of gaining community support will be outlined. Especial attention will be given to the Farm Bureau and the organization problems of the county agent. Each student will be expected to work out in detail plans for organizing some community with which he has first-hand acquaintance. Plans for putting his program into operation will also be required.

Prerequisite: Rural Social Science 302, or 401; should be accompanied by 402.

Text: To be selected.
(Required in XIV; elective in I, XII).

FOR GRADUATES.

501, 502. *Advanced Rural Social Science.* (3-4). *Major.*

In this course a critical and intensive study will be made of some of the most important rural social and economic problems. Each student will be expected to choose some definite problem having a close connection to his future work and on the basis of a review of the best literature in this field and first hand knowledge of the situation in question to formulate a constructive program for dealing with that problem.

Prerequisite: Rural Social Science 401, 402.

501a, 502a. *Advanced Rural Science.* (2-4). *Minor.*

A modification of course 501, 502.

DEPARTMENT OF TEXTILE ENGINEERING.

Professor Bagley, Associate Professor Dowd, Assistant Professor Lichte.

101, 102. Cotton Classing. (0-2).

This course includes practice in grading and stapling cotton, the methods of handling the crop from the field to the mill, and other subjects of general interest to a cotton student will be presented in lecture form. Laboratory fee, \$0.50 each term.

(Required in I, XIV, C).

207. Weaving. (0-3).

Practice in operating plain looms preparatory for course

202.

(Required in VI).

208. Weaving. (3-0).

Recitations and lectures on the construction, operation and adjustment of the plain and fancy looms; a study of the timing and setting of the various parts, and weave room calculations.

Text: International Library of Technology, Vol. 80.

(Required in VI).

206. Yarn Manufacture. (0-3).

Practice in operation of the machinery used in the manufacture of cotton yarns.

(Required in VI).

301, 302. Yarn Manufacture. (4-3, 3-2).

Recitations on the machinery and processes in the manufacture of coarse cotton yarns. Instruction is given with a view of imparting a general knowledge of the machinery and processes including the study of the raw material; mixing; mixing machinery; construction and operation of feeder and picking machinery, carding, drawing, slubbing, roving, ring spinning, spooling, reeling, and twisting; calculations to determine the necessary gearing to produce given numbers, speeds and production.

Texts: Cotton Mill Processes and Calculations, Tomkins. International Library of Technology, Vol. 76.

(Required in VI).

303, 304. Fabric Designing. (0-3).

This course includes the classification of fabrics; the elementary principles of fabric structure; the explanation of various technical terms applied to designs and fabrics; the representation of drawing-in drafts and harness chains; the design of fancy shirting, madras, and dress goods, etc.

(Required in VI).

305, 306. *Weaving. (3-3, 0-4).*

Continuation of course 204 together with fixing dobbies and Jacquards and the taking to pieces and rebuilding looms.

Text: International Library of Technology, Vol. 80.

Prerequisite: Textile Engineering 204.

(Required in VI).

401, 402. *Yarn Manufacture. (0-2, 3-3).*

Recitations and lectures; a continuation and more exhaustive treatment of the subjects of course 301, 302. In addition, the study of warp preparation and of the machinery necessary for the manufacture of fine cotton yarns, including the sliver lap machine, ribbon lap machine and comber, and a study of the spinning mule, organizations for the manufacture of all classes of yarns and the preparation of fancy warps.

Text: International Library of Technology, Vol. 77.

Prerequisite: Textile Engineering 302.

(Required in VI).

404. *Fabric Analysis. (1-0).*

Dissection of small samples with a view of reproducing them.

Prerequisite: Textile Engineering 303.

(Required in VI).

405. *Sizing. (3-0).*

This course includes a thorough study of all materials used in sizing cotton yarns. The best methods of testing for adulterants commonly found in these materials are given, as are also the most modern methods of their application to the yarns. The machinery and its operation are carefully studied.

Text: Chemistry and Practice of Sizing, Bean.

(Required in VI).

407, 408. *Weaving. (2-2, 0-4).*

Recitations and lectures on the construction, operation and adjustment of leno and Jacquard machines. A study of the different "tieups" used in Jacquard weaving. Sketching the most important motions on automatic and dobby looms.

Prerequisite: Textile Engineering 305, 306.

(Required in VI).

410. *Mill Management. (3-0).*

Lectures and recitations on the general management of cotton mills, including the study of fire protection, cost of production in the various departments, labor conditions and wages, care of mill and mill village.

Texts: International Library of Technology, Vol. 78; Cotton Mill Commercial Features, Tomkins.

(Required in VI).

412. *Magazine Review.* (1-0).

Students will report in class on articles assigned them in the textile magazines.

(Required in VI).

413. *Cotton Classing.* (1-2).

Recitation and lecture on classification and stapling of cotton, buying spot cotton, papers used in the cotton trade and cotton exchanges. Laboratory fee, \$0.50.

Text: Cotton Trade Guide and Student's Manual, Miller.
(Required in VI, XII).

415, 416. *Fabric Designing.* (0-3).

A continuation of course 304.

Prerequisite: Textile Engineering 304.

(Required in VI).

FOR STUDENTS IN SHORT COURSES.

11, 12. *Designing.* (0-3).

A modification of course 303, 304.

(Required in H). }

13. *Yarn Manufacture.* (4-3).

A modification of course 201, 302.

(Dequired in H).

16. *Weaving.* (3-3).

A modification of course 207.

(Required in H).

51, 52. *Yarn Manufacture.* (3-2, 3-4).

A modification of course 401, 402.

(Required in H).

53, 54. *Designing.* (0-3).

A modification of course 415, 416.

(Required in H).

55, 56. *Weaving.* (3-2, 3-4).

A modification of course 407, 408.

(Required in H).

58. *Fabric Analysis.* (1-0).

Dissection of small samples with a view to the reproduction of fabris; Jacquard designing, cutting cards from original designs.

(Required in H).

61. *Cotton Classing.* (1-2).

Same as course 413. Laboratory fee, \$0.50.

(Required in H).

DEPARTMENT OF VETERINARY ANATOMY.

Professor Francis.

111. Anatomy of the Domestic Animals. (3-6).

This will embrace a careful study of the bones, joints, and muscles.

Text: *Anatomy of Domestic Animals*, Sisson. Laboratory fee, \$4.00.

(Required in XI).

112. Anatomy of the Domestic Animals. (3-6).

During this term the thoracic and abdominal viscera will be studied. Laboratory fee, \$4.00.

Text: *Anatomy of Domestic Animals*, Sisson.

(Required in XI).

211. Anatomy of the Domestic Animals. (3-6).

This will include a dissection of the circulatory system, the nervous system and the organs of special sense.

Text: *Anatomy of the Domestic Animals*, Sisson.

(Required in XI).

213. Histology and Embryology. (2-4).

A lecture and laboratory course. Laboratory fee, \$4.00.

Texts: *Normal Histology*, Stohr; *Embryology of the Chick and Pig*, Prentiss.

(Required in XI).

302. Anatomy and Physiology of Domestic Animals. (2-2).

This course is intended as an introduction to the study of Veterinary Medicine. It treats the fundamental processes of animal nutrition in detail, so that each student may be prepared to meet the problems that arise in the economic production of beef, pork, and dairy products.

Reference books: *Physiology of Domestic Animals*, Smith; *Veterinary Anatomy*, Sisson. Laboratory fee, \$1.50.

(Required in I, group 5).

FOR STUDENTS IN SHORT COURSES.

52. Animal Diseases. (3-2).

A popular course on the common diseases of animals on the farm. Laboratory fee, \$1.50.

Text: *Principles of Veterinary Science*, Hadley.

(Elective in C).

DEPARTMENT OF VETERINARY MEDICINE AND SURGERY.

Professor Marsteller, Associate Professor Lenert.

351. Non-infectious Diseases. (3-0).

This course consists of lectures and demonstrations on physical diagnosis.

(Required in XI).

352. *Non-infectious Diseases.* (3-0).

In this course instruction is given on diseases of the digestive, circulatory, respiratory and urinary organs.
(Required in XI).

361. *General Surgery.* (3-0).

In this course instruction is given in the principles of surgery, restraint of domestic animals, surgical diagnosis, surgical exercises and soundness.
(Required in XI).

362. *General Surgery.* (3-0).

This course is a continuation of General Surgery 362.
Laboratory fee, \$5.00.
(Required in XI).

371. *Clinics.* (0-7).

372. *Clinics.* (0-12).

471. *Clinics.* (0-7).

472. *Clinics.* (0-7).

Hospital service is required of all students. They must give daily attention to cases assigned. In addition to hospital duty, laboratory diagnosis and post-mortem examination will be required whenever necessary. An ambulatory clinic is maintained. Students will, as occasion may require, make trips to other parts of the State to observe and study outbreaks of diseases. Cases in clinic are treated under hospital conditions. When necessary they are held for observation and study; thus the student is given an opportunity to see the entire course of these diseases and the results of treatment. About fifteen hundred cases of non-infectious diseases, infectious diseases, and surgical diseases of animals and fowls are treated in clinic each year.

(Required in XI).

403. *Animal Diseases.* (3-2).

A discussion of common infectious and non-infectious diseases of domestic animals.

Text: Veterinary Medicine, Vols. 1, 2, 3, 4, 5, Law.

Prerequisite: Veterinary Anatomy 304.

(Required in I, group 5).

451. *Diseases of Small Animals and Fowls.* (3-0).

In this course special attention is given to non-infectious and infectious diseases in pet animals and domestic fowls.
(Required in XI).

452. *Practice of Veterinary Medicine and Jurisprudence.* (3-0).

The aim of this course is to acquaint the student with

general business methods and State and national laws relating to the practice of veterinary medicine.

(Required in XI).

453. *Infections Diseases.* (3-0).

This course involves the study of the symptoms, treatment and control of infectious diseases.

(Required in XI).

461. *Obstetrics.* (2-0).

This course treats of accidents of breeding, diseases incidental to pregnancy, parturition and partum conditions. Attention is also given to diseases of the newly born.

(Required in XI).

462. *Operative Surgery.* (3-4).

In this course instruction is given in castrating, spaying dentistry, lameness, shoeing. Surgical exercises are required.

(Required in XI).

DEPARTMENT OF VETERINARY PATHOLOGY.

Associate Professor Price.

242. *General Pathology.* (3-2).

This course deals with the elementary disease processes, and their causes, including a study of the gross and minute appearance of the disease tissues. Such processes as inflammation, necrosis, gangrene atrophy, hypertrophy, ulceration; the various degenerations, infiltrations, pigmentations and tumor formations are considered.

Practice work consists of the microscopical study of these processes and instruction in laboratory technique.

References: Text-book of Comparative General Pathology, Kitt; Text-book of Pathology, Delafield and Prudden; General Pathology, Ziegler; Pathological Technique, Mallory and Wright. Laboratory fee, \$1.50.

Prerequisite: Veterinary Anatomy 202.

(Required in XI).

341, 342. *Special Pathology.* (2-0, 2-4).

A course of lectures on the special systematic pathology and morbid anatomy of the different organs. The pathology of the various infectious and contagious diseases is considered.

Practice work includes the demonstration of museum and fresh specimens, and an introduction to post-mortem technique.

References: Pathology and Therapeutics of the Diseases of Domestic Animals, Hutyra and Marek; Veterinary Post-mortem Technic, Crocker. Laboratory fee, \$2.00 each term.

(Required in XI).

343. *Special Bacteriology. (2-4).*

A study of the pathogenic micro-organisms, their morphology, cultural characteristics and pathogenicity, is considered. Laboratory fee, \$4.00.

Text to be assigned.

(Required in XI).

441. *Immunology and Serum Therapy. (2-2).*

The fundamental principles of immunity are considered. Special attention is given to the preparation of biologics used in the prevention of infectious diseases. Laboratory fee, \$4.00.

(Required in XI).

442. *Meat Hygiene. (2-2).*

This course deals with the abattoir inspection of meats and meat products; the Federal regulations governing such inspection, condemnation and disposal of carcasses, also the regulations concerning interstate and foreign shipments of live stock.

Text: Meat Hygiene, Edelman, Mohler and Eichorn.

(Required in XI).

443. *Parasitology. (2-2).*

This course deals with the parasites infesting the domestic animals, and the pathological conditions produced by them. The treatment of parasitic diseases is considered. Laboratory fee, \$1.50.

(Required in XI).

444. *Laboratory Diagnosis. (2-2).*

The methods of procedure in the preparation of material for laboratory examination are given, and the technique of examination explained. Those biological tests which are of especial importance are considered. Laboratory fee, \$2.00.

(Required in XI).

DEPARTMENT OF VETERINARY PHYSIOLOGY AND
PHARMACOLOGY.

Associate Professor Blackberg.

121. *Physiology of the Domestic Animals. (2-0).*

Lectures on the physical and chemical processes involved in the physiological functioning of the bodies of the domestic animals.

(Required in XI).

122. *Physiology of the Domestic Animals. (2-0).*

Lectures on the physiology of the circulatory, respiratory, muscular and locomotor systems.

Prerequisite: Course 121.
(Required in XI).

221. *Physiology of the Domestic Animals.* (2-0).

Lectures on the nervous system, including special senses, digestion, absorption, secretion, and excretion.

Prerequisite: Course 122.
(Required in XI).

222. *Physiology of the Domestic Animals.* (3-4).

Lectures on physiological chemistry, with special reference to digestive juices, enzymes, ferments, hormones, internal secretions, milk, urine, and chemical composition of the body.

The laboratory practice consists of studying blood, milk, urine, and other body fluids, including the action of natural and artificial digestive juices (enzymes) on the various food-stuffs. The students also make graphic records of the physiological functioning of the muscular, nervous, respiratory, and circulatory system. Laboratory fee, \$2.50.

Prerequisite: Course 221.
(Required in XI).

331. *Pharmacology.* (3-4).

This course covers the preliminary work in pharmacology. First, it takes up definition; terminology, metrology, modes of administration and psosology of drugs. This is followed by a study of the derivation, doses, actions, therapeutics and indications of drugs acting on the circulatory system, nervous system, etc.

Text: *Veterinary Pharmacology and Therapeutics*, Milks; *Veterinarians' Handbook*, Udall. Laboratory fee, \$3.00.
(Required in XI).

432. *Toxicology.* (1-2).

In this course particular attention is paid to discussions of the common poisonous plants and mineral poisons, with the proper treatment and prevention. The practice covers methods of detecting these poisons and the symptoms produced by them on experimental animals. Laboratory fee, \$2.50.

(Required in XI).

DEPARTMENT OF VOCATIONAL TEACHING.

Professor Hayes, Professor Kraft Associate Professors Fields, Marten,
Assistant Professors Hughes, Dickey, Long, Mr. Wilcox, Mr.
Glazener, Mr. Handrick.

202. *Psychology.* (3-0).

This is a beginning course in psychology adapted espe-

cially to the needs of business men and administrators. A study is made of the fundamentals of instinct, attention, habit formation, memory, etc., and the application of these principles to life, to advertising, and to the management of employees.

(Required in XIV).

304. High School Problems. (3-0).

This course is an intensive study of the most important problems in the administration of a high school. Among the topics discussed are the following: Relation of high school to elementary school, college, community interest, and to life; reorganization of the curriculum with special reference to vocational subjects; equipment, daily schedules, records, athletics, improvement of teachers.

Text: Principles of Secondary Education, Monroe.

(Elective in I, group 2; XII, XIII).

305. Vocational Education. (3-0).

It is the purpose of this course to give a clear understanding of the field of vocational education, to insure sympathy and enthusiasm for the introduction of vocational training in the public schools, to set up proper objectives and to indicate standards in methods, content, and in qualifications of teachers for agricultural, industrial, commercial, and homemaking education.

(Required in I, group 2; XII, XIII; elective in I, groups 4, 5, 7, 8, 9, 10).

307. Related Subjects. (2-0).

This course deals with the selection and correlation of the subject-matter related to the shop work in the woodworking trades chiefly from the standpoint of the teacher of related subjects. Mathematics, drawing, physics, and safety first will be considered.

(Required in XIII).

308. Educational Psychology. (3-0).

This is a beginning course in psychology with special emphasis on its application to the problems of teaching. Among the topics considered are the following: Instincts, individual differences, mental tests and measurements, habit formation, association, retention, attention and motivation, characteristics of adolescents and relation to methods of teaching and control.

(Required in I, group 2; XII, XIII; elective in I, groups 4, 5, 7, 8, 9, 10).

310. Vocational Guidance. (3-0).

This course is devoted to a study of the methods, prob-

lems and administration of vocational guidance. The course will include a discussion of vocational guidance surveys and land literature, supervision, analysis, possibilities of vocational guidance in regular school work, means of discovering vocational aptitudes, work of vocational counselors, and vocational bureaus.

(Required in XIII; elective in I, group 2; XII).

401. Methods of Teaching Agriculture. (3-0).

The fundamental principles of the aims and methods of the recitation are studied with their application to the conditions of the high school and especially the class in vocational agriculture. The project method of teaching and the socialized recitation are emphasized. Observation in assigned classes and supervised teaching in vocational agriculture are required as part of the course.

(Required in I, group 2; XII; elective in I, groups 4, 5, 7, 8, 9, 10; XIV).

402. Administration of High School Agriculture. (2-2).

This course is a study of the specific problems that confront the teacher carrying on the work of the department of agriculture in the high school. Among the topics discussed are: The selection of subject-matter suited to local conditions; agriculture in the curriculum; laboratory, field and home exercises; visual instruction; supervision of home projects; laboratory and library equipment; use and management of school farm; and community or extension work. The laboratory period will be used for the preparation of teaching material, for observation and supervised teaching, and for individual assignments.

(Required in I, group 2; XII; elective in I, groups 4, 5, 7, 9, 10; XIV).

403. Rural Education. (3-0).

The primary purpose of this course is to make a study of rural education in its broad sense, with a view of preparing teachers and extension workers for more efficient service in rural communities. Some of the topics discussed are: Changes in rural education and the rural home, together with the factors affecting such changes; the school as a community center; other agencies to be co-ordinated; community play and recreation; and the redirected rural school.

Text: *Rural Life and Education*, Cubberley.

(Elective in I, group 2; XII).

404. Agricultural Extension and Demonstration. (3-0).

This course is intended to give a survey of the whole field of extension in agriculture and home economics, and to give practice that will prepare for actual field work. Among the

topics discussed are: Evolution of extension in agriculture and home economics; general organization for extension; methods of extension, farm demonstration work; junior agricultural clubs; extension by experts; extension by railroads and commercial companies; and the training of extension workers. Courses 301, 302 and 403 are important to give preparation for this course, but they are not prerequisite. Lectures, assigned readings, and problems constitute the work of this course.

(Elective in 1, group 2; XII).

407. Methods of Teaching Industrial Education. (3-0).

This course deals with the relation of the instructor to production; methods of analyzing a vocation into lessons and arranging these lessons in instructional order; analyzing the operation, trade knowledge and teaching points in a lesson; methods of instruction; line of approach; lesson planning; effect of surroundings and materials upon instructional conditions; interest factors; planning short unit course in shop and related work.

Text: *The Instructor, The Man, and The Job*, Allen.

(Required in XIII).

409. Supervised Teaching. (3-0).

The purpose of this course is to give opportunity for students to get actual experience in teaching secondary agriculture under supervision. Lesson plans are submitted by the student and approved by critic teaching in advance of the lesson. The teaching methods and results of the student are discussed in special conferences. Teaching will be done in classes in vocational agriculture on the Campus or at nearby high schools. Observation and study will be required in addition to the supervised teaching. A minimum of four weeks of continuous teaching will be required. Students are urged to select their courses so that the hours 2 to 4 p. m. will be left open as many days as possible so that the teaching will not interfere too much with work in the other courses.

(Required in XII; elective in I, group 2).

410. Supervised Teaching. (3-0).

This course may be considered the same as 409, or as a continuation of 409.

412. Supervised Teaching. (1-4).

This course gives students an opportunity to get actual experience in teaching industrial education under supervision. Lesson plans are submitted for approval in advance of the lesson. Conference periods are held for discussion of methods used and results obtained. Application for this course should be made at least three months in advance.

(Required in XIII).

413. *Related Subjects. (3-0).*

This course is intended to continue and supplement the discussion in course 307. Special consideration will be given to the metal working trades. Students are expected to have had actual experience in at least two trades as a basis for judgment in selecting the related subjects needed by tradesmen. (Required in XIII).

415. *Educational Tests and Measurements. (3-0).*

The teacher of agriculture is constantly being used in the smaller school systems in the State as principal or superintendent. It is necessary, therefore, that the special teacher of agriculture have the opportunity of becoming acquainted with modern methods of measuring the results of teaching.

The purpose of this course is to give the teacher, the principal and the superintendent a working knowledge of educational tests. A study will be made of the various tests and measurements employed in measuring school-room instruction.

(Elective in I, group 2; XII, XIII).

416. *Administration and Supervision of Industrial Education. (3-0).*

This course deals with the various problems encountered in introducing industrial education into a school system and in developing the work in its varied forms. Among the topics discussed are: The place of industrial education in the junior high school as an aid toward educational guidance into the vocations and avocations of life; organization of courses of study for junior high schools, senior high school, technical schools, trade schools, and corporation schools; safety first; plans and equipment; selection of teachers; improvement of teachers in service; formulating programs; selection of textbooks; classroom management.

(Required in XIII).

418. *Visual Instruction. (1-4).*

The purpose of this course is to study the theory and practice of visual instruction and to acquire skill in the preparation and use of material for visual instruction. The course will include the designing and making of charts, use of the camera making negatives and lantern slides, coloring lantern slides, use of stencils, mimeoscope and projection lantern, operation and care of motion picture machine, graphic representation of data and the use of the cartoon. Instruction will also be given in preparation and display of material for fairs and exhibits.

(Elective in I, group 2; XII, XIII).

419, 420. *Agricultural Education Seminar.* (1-0).

An informal conference is held once a week. The staff of the department and other teachers of the College interested in the current agricultural education problems will assist in the discussion. Students enrolling for credit will select special subjects for study and will report progress from time to time.

(Elective in I, group 2; XII).

FOR GRADUATES.

501, 502. *Agricultural Instruction.* (4-0). *Major.*

This course involves more extensive study of the problems raised in courses 401 and 402. In addition to this study of the work of the teacher of vocational agriculture, each student selects an individual problem for intensive study as a basis for his thesis. As one of the requirements of this course the student attends and takes part in courses 419, 420. Courses 401 and 402 must precede or accompany this study.

501a, 502a. *Agricultural Instruction.* (3-0). *Minor.*

A modification of Course 501, 502.

503, 504. *Agricultural Extension and Demonstration.* (4-0). *Major.*

This course involves more extensive study of the problems raised in course 404. In addition to this study of the entire field of Farmers' Co-operative Extension work in Agriculture and Home Economics, each student selects an individual problem for intensive study as a basis for this thesis. As one of the requirements of this course the student attends and takes part in courses 419, 420. Course 404 must precede or accompany this study.

503a, 504a. *Agricultural Extension and Demonstration.* (3-0). *Minor.*

A modification of course 503, 504.

505, 506. *Organization and Management of Teacher-training Departments.* (4-0). *Major.*

This course involves a more extensive study of the problems raised in courses 401 and 402, with special emphasis on the duties of the teacher of vocational agriculture as a basis for determining what the teacher-training department must do and how it must be accomplished. Each student selects an individual problem for intensive study as a basis for his thesis. Courses 401 and 402 must precede or accompany this study. As one of the requirements of this course the student attends and takes part in courses 419, 420.

505a, 506a. *Organization and Management of Teacher-training Departments. (3-0). Minor.*

A modification of course 505, 506.

507, 508. *Direction and Supervision of Vocational Agriculture. (4-0). Major.*

This course involves more extensive study of the problems raised in courses 401 and 402, with special emphasis on the means and methods of supervising and directing the work of the teacher of vocational agriculture and supervising the training of teachers. Courses 401 and 402 must precede or accompany this study. As one of the requirements of this course the student attends and takes part in courses 419, 420.

507a, 508a. *Direction and Supervision of Vocational Agriculture. (3-0). Minor.*

A modification of course 507, 508.

PART V

RESEARCH, EXTENSION, SUMMER SESSION, AND OTHER
ACTIVITIES

THE AGRICULTURAL EXPERIMENT STATION.

B. YOUNGBLOOD, Director.

The Texas Agricultural Experiment Station is one of the four co-ordinate divisions of the Agricultural and Mechanical College of Texas. Its function is the investigation of agricultural problems. It consists of a central station at College Station, and thirteen substations, located in various sections of the State, as follow:

Angleton, Beeville, Beaumont, Chillicothe, Denton, Lubbock, Nacogdoches, Pecos, Spur, Temple, Troup, Sonora, College Station.

These substations are used for extending the work of the Main Station, so that Statewide information may be secured upon the various phases of Station work. The Station at the present time is supported by \$30,000 Federal and \$180,-970.40 State funds, for the year.

The work of the Station comprises the investigation of the more important problems of veterinary science, chemistry, horticulture, animal industry, entomology, agronomy, plant pathology and physiology, forestry, plant breeding, rural economics, and the Feed Control Service. The Station is a source of valuable information for students of agriculture and the farmers and stockmen of the State. It is looked to for facts by the School of Agriculture, the Extension Service, and other agencies for the dissemination of agricultural information.

The work of the Main Station, and of the Feeding and Breeding substation (Substation No. 10) presents to students very unusual opportunities both in theoretical instruction and practical experience.

A brief statement of the work of the Station, by divisions and substations, is as follows:

MAIN STATION.

VETERINARY SCIENCE.

The Division of Veterinary Science conducts researches covering the diseases of farm animals of various kinds. Special attention is being given to diseases affecting horses and mules, cattle, sheep, goats, and swine.

CHEMISTRY.

The Division of Chemistry conducts researches relating to feedstuffs, soils, fertilizers, irrigation waters, minerals, paints, and miscellaneous analysis; analysis of feeding stuffs for the Feed Control Service; and the enforcement of the

State law regulating the sale of commercial fertilizers. The Chief of the Division of Chemistry is also State Chemist.

HORTICULTURE.

The Division of Horticulture conducts researches relating to fruits, vegetables, and ornamental trees and shrubs, and the introduction and propagation of new and promising varieties of fruits, vegetables and shrubs from foreign countries.

ANIMAL INDUSTRY.

Under the Division of Animal Industry researches are conducted with reference to the feeding, breeding, and management of various types of farm animals, including cattle, horses, sheep, goats, swine, and poultry. Substations 7, 10, and 14 are used somewhat extensively for various lines of research into problems relating to the animal industry of the State.

ENTOMOLOGY.

The Division of Entomology conducts researches relating to the various insect pests affecting the crops of the State, including life-history and methods of control of the various species, as well as researches relating to the beekeeping industry of the State. The chief of this division is also State Entomologist, and as such has immediate charge of the enforcement of the law regulating foul brood in bees.

AGRONOMY.

The Division of Agronomy conducts researches relating to the various farm crops adapted to the State, and pays special attention to the introduction and propagation of new and promising crops from foreign countries. Attention is also paid to soil fertility, and researches are conducted as to methods of application of fertilizers and green manures for soil improvement.

PLANT PATHOLOGY AND PHYSIOLOGY.

The Division of Plant Pathology and Physiology conducts researches relating to the diseases affecting plants of the State, with a view to developing methods of combating them. Both field crops and vegetable diseases are studied, as well as diseases of trees, ornamentals, and shrubs of various kinds.

FORESTRY.

The Division of Forestry conducts researches relating to the introduction, preservation and propagation of forest trees in various parts of the State, and the maintenance of an adequate timber supply for the State. The State Forester, who is chief of this division, is charged by law with the prevention of forest fires.

PLANT BREEDING.

The Division of Plant Breeding conducts researches that

relate to the breeding of plants, and their improvement, including field crops, such as cotton, corn, the sorghums, and so forth, special attention being paid to inheritance, and determination of the Mendelian unit characters.

FARM AND RANCH ECONOMICS.

Formerly it was the custom for experiment stations to take up specific problems affecting farm practices for solution by specialists. At the present time there is quite a general change in viewpoint which causes the experiment station to look upon all farm problems as being a part of or having a bearing upon the more general problems of rural economics and sociology. In accordance with a nation-wide movement there has been created in the Texas Station a Division of Farm and Ranch Economics, for the purpose of studying the economic problems effecting the agriculture of the State. In the future, therefore, the work of the specialists will be so arranged as to solve specific problems and at the same time throw light upon the more general economic problems.

FEED CONTROL SERVICE.

The State law regulating the sale of concentrated commercial feeding stuffs and the materials from which they are manufactured, provides for defining them, for prohibiting their adulteration; for correct weighing and marking, and for collecting of samples; it also provides for the expense of enforcing the law, and for fixing penalties, and places the enforcement of the act in the hands of the Director of the Texas Agricultural Experiment Station. The Director is empowered to adopt names, standards and definitions; to refuse registration of any feeding stuff under a name which would be misleading as to the materials of which it is made up, or which does not conform to the standards, and after ten days' notice to cancel such registration as may be found in violation of the law or contrary to the names, standards and definitions in effect.

The purpose of the Feed Control Service, which is operated as a division of the Station, is to afford protection alike to buyers and sellers of feeding stuffs. Annual bulletins are issued, giving the names, standards and definitions; lists of firms registered for the purpose of selling feeds in Texas, and the feeds offered by them, as well as the chemical composition of these feeds, as determined by the chemist for the Feed Control Service.

The Feed Control Service investigates problems encountered in the enforcement of the law, with reference to the feeding values of various feeds and combinations of feeds. The results of these investigations are given to the people of the State through bulletins and circulars, issued from time to time.

SUBSTATIONS.

The thirteen substations, owned and operated by the State as a part of the Station are, as their name implies, subordinate to and a part of the Main Station. In the location of these substations due regard has been given to the need of outlying work within the several agricultural regions.

PUBLICATIONS.

The reports, bulletins and circulars of the Station are distributed to the farmers and stockmen of Texas, and others interested, free for the asking. Care is taken, however, to see that economical distribution is made. All requests for publications should be addressed to:

THE DIRECTOR, TEXAS AGRICULTURAL EXPERIMENT STATION,
A. AND M. COLLEGE OF TEXAS,
COLLEGE STATION, TEXAS.

THE ENGINEERING EXPERIMENT STATION.

J. C. NAGLE, Director.

The Texas Engineering Experiment Station is composed of all the engineering departments of the College, and was organized for the purpose of affording a service to the industries of Texas similar to that afforded to the agricultural interests by the Agricultural Experiment Station; of assisting the urban population of the State in solving the technical problems of urban life; of investigating engineering and industrial problems of especial importance to Texas, and of disseminating information along these lines.

The Texas Engineering Experiment Station staff consists of the entire teaching force of the following departments of the College:

Architecture and Architectural Engineering.
Civil Engineering.
Economics.
Electrical Engineering.
Mechanical Engineering.
Physics.
Textile Engineering.

Bulletins have been issued as follows:

- No. 1. Earth Roads.
- No. 2. Relation and Value of Chemistry to Industry.
- No. 3. The Comparative Value of Fuels.
- No. 4. Highway Bridges and Culverts.
- No. 5. Highway Engineering at the A. and M. College.
(Superseded by No. 14).
- No. 6. Household Conveniences.
- No. 7. Gravel Roads.
- No. 8. Electricity in the Country Home.
- No. 9. Cotton Classing and Marketing.
- No. 10. Sewage Disposal for Country Homes.
- No. 11. Purchasing by Specification.
- No. 12. Demonstration Roads at the A. and M. College. (Out of print).
- No. 13. The Financial Side of Road Improvement.
- No. 14. Highway Engineering at the A. and M. College of Texas. (Out of print).
- No. 15. The Organization of a State Highway Department for the State of Texas. (Out of print).
- No. 16. Maintenance of Earth, Sand-Clay and Gravel Roads.
- No. 17. The Physical Testing of Non-bituminous Road Materials.
- No. 18. The Benefits of Good Roads.
- No. 19. Sand-Clay Roads.

- No. 20. The Value of Economic Geology.
No. 21. The Administration of Highway Improvements.
R. L. Morrison.
Bituminous Pavement Investigations in Certain
Texas Cities, Part I, Bitulithic. Roy M. Green.
No. 23. Principles of Pavement Selection, with Statistics
of Pavements in Texas Cities and Towns
Prior to January 1, 1920. Roy M. Green and
L. W. Kemp.

For copies of these bulletins, and for information regarding the work of the Texas Engineering Experiment Station, address J. C. Nagle, Director, College Station, Texas.

(Agricultural and Mechanical College of Texas and United States Department of Agriculture Co-operating).

THE EXTENSION SERVICE.

T. O. WALTON, Director.

Extension work in agriculture and home economics by the Agricultural and Mechanical College in co-operation with the United States Department of Agriculture was established under the terms of the Smith-Lever Act, the Texas Legislature formally accepting the terms of the Federal Act passed in May, 1914. The Board of Directors and the President of the College executed the first co-operative agreement under its terms with States' Relations Service of the United States Department of Agriculture in 1914.

The general purpose is to carry information from the College, the experiment stations and other authentic sources to farmers, farm women, farm boys and girls. In addition to the regular State and Federal Smith-Lever funds that are available for the conduct of the work, several co-operative projects are maintained by the United States Department of Agriculture under co-operative agreement between the College and department, these activities being correlated with and functioned through the Extension Service of the College. Besides the important undertakings of farm and home demonstration work through county agents, sustained jointly by the county, the College and the Department of Agriculture, the service disseminates information by demonstrations for the development of better farming and home-making, and in a broad way for the promotion of rural welfare. The funds available from the counties, the State and the Federal Department have been sufficient to enable the College to maintain county agents in practically all of the more important agricultural counties in the State. The condition under which work is placed in a county is, that the county commissioners court or other local organization pay from one-half to two-thirds of the salary of the agent; the remaining portion of the salary and expenses being borne by the College and department.

FARM DEMONSTRATION WORK.

The Farm Demonstration work is conducted by District and County Agents, and consists of applying scientific principles to the solution of the problems of production and marketing Farm and Ranch products.

HOME DEMONSTRATION WORK.

The farm home is an essential part of the farm establishment, and the district and Home Demonstration agents are disseminating information to farm housewives through demonstrations, lectures, publications, in home management, dairy-

ing, gardening, orcharding, poultry keeping and other phases of home improvement; thus enabling the farm women to keep fully informed with reference to modern methods in dealing with household problems.

SPECIALISTS.

In the growth and development of the work trained specialists in certain phases of agricultural work have been found essential to the successful dissemination of information on improved agricultural practices. These men and women specialists keep in touch with the latest information obtainable regarding their particular specialty and assist the county and home demonstration agents in the solution of difficult problems in their work requiring the services of specially trained men and women along certain lines, and compile information, answer correspondence, and emergency calls.

RURAL ORGANIZATION.

The Extension Service, through its specialists, district and county agents, is encouraging rural organization in counties where agents are maintained, the purpose of these organizations being to stimulate co-operation among farmers in all matters of interest to farm families, and especially the co-operative handling of farm products through purchase and sale in such manner as to obtain the best returns.

BOYS' AND GIRLS' CLUBS.

The primary mission of an educational institution is to look after the rising generation, and while the Extension Service would in no wise neglect the adult farmer, yet it has realized the importance of properly training the youth of the State during the formative period; therefore, special effort has been made under trained leadership and by diligent instruction to give the boys and girls the proper understanding of agriculture and home economics and to prepare them for successful and happy life in the country. The particular projects maintained are boys' agricultural and live stock club work, and girls' canning and poultry club work.

PUBLICATIONS.

Seasonal advice on farm problems is issued through bulletins, leaflets, circulars, correspondence, newspaper articles, and the Semi-Monthly Extension Service Farm News, as well as correspondence and mimeographed letters and circulars.

SUMMER SESSION.

GENERAL STATEMENT.

The summer session of the Agricultural and Mechanical College of Texas has been established for the following well defined purposes:

1. To provide courses of instruction in all phases of agriculture and the allied sciences, and in automobiles and tractors, manual training, cotton classing, rural sanitation, rural economics, and rural social science, for the benefit of teachers, rural ministers, county and local officers, farmers, farm boys, farm women, rural merchants, and others who may be interested in any phase of agricultural or rural development.

2. To offer to young men having sufficient preparation the opportunity of taking courses for college credit, and also to permit students of the College to remove deficiencies or to pursue courses toward graduation.

3. To provide instruction for young men who need to remove or take additional work as a preparation for examination to enter this College.

ORGANIZATION.

The work of the Summer Session will be given in six divisions as outlined below:

1. *The College. (Twelve Weeks).*

Three groups of courses will be given in this division, as follows:

1. Courses carrying credit toward graduation.
2. Courses carrying credit toward a certificate in agriculture.
3. Courses carrying entrance credit to the College.

All courses in this division are open only to those who have had the prerequisite training. The work will be given in two terms of six weeks each.

The maximum amount of work a student may carry in a six weeks term is the equivalent of eight term hours, except in the case of men who have had approved teaching experience; with the consent of the Director of the Summer Session such men may carry the equivalent of nine term hours. All rules of the regular session apply to the Summer Session in the matter of prerequisites, grades, examinations, and class absences. Three cases of tardiness to class will be counted as one absence.

All work in the Summer Session must be taken in accordance with the published schedule.

The last day on which a student may complete his regis-

tration for work in the College Division is Friday of the first week of each term.

The right is reserved to withdraw any course for which less than five students register.

2. *The School of Cotton Classing. (Six Weeks).*

The object of the School of Cotton Classing is to prepare young men for cotton buying and the managing of cotton warehouses, and to offer to farmers the opportunity of increasing their knowledge of the leading farm product of Texas.

A study is made of the elements which determine the commercial grades of cotton; the influences which affect the price of cotton; the system of financing the crop from field to factory, and the relation of exchanges to the business in general. Each class is furnished with new samples for practice, and the work is patterned after that of a cotton office. The samples used in the summer school are obtained from the cotton states west of the Mississippi river, and an effort is made to familiarize the student with the different characteristics of cotton grown in the southwest.

Special attention will be paid to the staple of cotton, and experts in this branch will give instruction in this subject. Many samples of various lengths of staple will be provided for students taking up this line of work.

The government standards for classing cotton, which have been adopted by all exchanges, will be used.

3. *The Eight Weeks Course in Automobiles and Tractors.*

This course is intended to meet the demand for men who can operate and repair farm gas engines, tractors and automobiles.

The gas engine is the basis of tractors, automobiles, and the farmer's power, hence the course includes a very thorough training in gas engines. All types of gas engines are studied, from the one-cylinder up to the eight-cylinder. The student actually takes apart these engines, puts them back together, and makes them run. In this way he learns how to time valves, ignition, grind valves, etc. Bearings are poured and scraped. Soldering, hardening of steel and other practical points needed in motor repair are taught.

A very careful study, which includes repair and adjustment, is made of the chassis—the springs, rear end transmission.

Two weeks are spent in the study of ignition of multi-cylinder motors. The different systems found on tractors and automobiles are taken up. The student is expected to wire up the various systems as they are found on the tractors and automobiles in the laboratory.

Magnetos are taken apart and studied; they are timed

and repaired. Every effort possible is made to get the student familiar with the principles underlying gas engine ignition.

Oxygen-acetylene welding is given in the regular course. Students get an opportunity to do welding. The department does considerable welding for the outside, and the students get the benefit of seeing this work done.

A detailed study of tractors is included, which requires the students to use them in the field. The Agricultural Engineering Department has a 100-acre farm which is reserved for tractor work with students. All the field operations are done, such as plowing, discing, threshing, cultivating, hauling, etc.

4. *The Farm Boys' Division. (Four Weeks).*

The object of this course is to offer to boys not under fourteen or over eighteen years of age, elementary, but practical courses in subjects relating to farm life.

For several years there has been growing, throughout the State, a feeling that our farm boys should be given better opportunities for securing special training in agricultural and farm life subjects. A great majority of these boys have not had access to schools of sufficient grade to enable them to enter college courses, and it is to meet their needs for practical instruction in agriculture that the Farm Boys' Division has been added to the work of the Summer Session.

Courses will be given covering the important divisions of agriculture.

5. *The Course for County Agents. (Six Weeks).*

The work of this division is planned to meet the needs of persons who desire to better prepare themselves for county agent work. The duties of an efficient county agent require that he have a knowledge of the elementary principles underlying agricultural practice, as well as successful farm experience. In the future no person will be appointed to a position as county agent in Texas who does not have, in addition to successful and satisfactory farm experience, a general knowledge of the principles underlying modern agricultural practice, and who cannot satisfactorily pass an examination in agriculture as provided for by the Thirty-sixth Legislature.

The courses of study in this division have been carefully outlined to meet the needs as stated above.

6. *The Farmers' Short Course. (One Week).*

This course is planned to meet the needs of men and women who desire to farm on a better basis, and to make farming more profitable, and to make farm life more comfortable and attractive.

The teaching staff of the Farmers' Short Course will be composed of officers from the teaching division, the Experi-

ment Station and the Extension Service of the College. There will also be several out-of-State speakers of national reputation.

CHARACTER OF WORK.

1. *Agriculture*.—Separate courses will be offered in the following departments: Agricultural Education, Agricultural Engineering, Agronomy, Animal Husbandry, Dairy Husbandry, Horticulture, Poultry, Plant Diseases, Insects, and Veterinary Medicine.

2. *Home Economics*.—A special course in Home Economics will be offered to girls and women. The work will consist of lectures and demonstrations in cooking, canning, basket making, and household art. A special feature of this course will be the Canning Club Contest for the Farm and Ranch Loving Cup.

3. *Course for Boys*.—A special course will be offered for boys. The work will be given in judging live stock, farm machinery, gas engines, tractors, budding and grafting of plants, and the like. A special feature of this course will be the Live Stock Judging Contest for the Progressive Farmers' Loving Cup.

ADMISSION REQUIREMENTS.

In the College division courses will be offered subject to the same general requirements as in the regular session.

To enter the eight-weeks course in automobiles and tractors the student must be sixteen or more years old, and must present a certificate from some reliable person showing that he is in good standing in his community.

The work of the Farm Boys' division is open only to boys not under fourteen or over eighteen years of age.

To enter the course for County Agents, the student must meet the minimum educational requirement, which is the equivalent of a first grade teacher's certificate.

There are no fixed requirements for admission to the School of Cotton Classing or the Farmers' Short Course.

For bulletin giving detailed information concerning the Summer Session, address

THE REGISTRAR,
College Station, Texas.

FERTILIZER CONTROL SERVICE.

G. S. FRAPS, State Chemist.

The chemist of the Texas Experiment Station is designated by law as State Chemist, and has charge of the enforcement of the fertilizer law. Under his direction fertilizers are inspected, sampled for analysis, the samples analyzed, and the results published as bulletins of the Experiment Station. It is also the duty of the State Chemist to investigate the composition, properties, and agricultural values of fertilizers, of fertilizer materials, and to conduct experiments relative to the value of fertilizers. Such investigations are being made, and the results published from time to time. The people of the State are furnished with information concerning fertilizers, by means of personal letters, bulletins, and otherwise. Co-operative fertilizer experiments are made with farmers, so that they can test the effects of various combinations of fertilizers on their own land.

Analyses are made of soils, irrigation and domestic waters, fertilizers, etc., when the analysis would be of public benefit along the lines of agricultural chemistry, and when the samples are taken in accordance with the requirements necessary to secure a suitable sample. Persons who desire to secure an analysis should request further information and instructions for sampling, as samples must be properly taken if the analysis is to have any value.

Analyses of feeding stuffs for Feed Control Service, and chemical investigations of their composition and properties, are also made by the State Chemist.

OFFICE OF STATE ENTOMOLOGIST.

M. G. TANQUARY, State Entomologist.

By law the entomologist of the Texas Agricultural Experiment Station is ex-officio State Entomologist and his headquarters are at College Station. The State Entomologist is charged with enforcing the laws of the State relative to diseases of honey bees. Under this law, it becomes the duty of every citizen to report the presence of any disease of honey bees to the State Entomologist. The law empowers the State Entomologist to issue such regulations as may be necessary to control diseases of bees. These regulations as they are now issued restrict the shipment of bees and appliances capable of transmitting diseases into quarantine counties. These quarantine counties are organized with inspectors to eradicate diseases of bees. A certificate must be secured for the movement of bees within the State, as it is unlawful for common carriers to accept for shipment any bees or appliances except as provided for by the State Entomologist. The State Entomologist is required to publish such information as is necessary on the methods and directions for treating, eradicating and suppressing diseases of honey bees. It is unlawful for anyone to seek to prevent the inspection of bees, honey or appliances by the State Entomologist or his assistants. In addition to enforcing the law relative to the diseases of bees, the State Entomologist furnishes the citizens of the State with information concerning injurious insects and their control.

OFFICE OF STATE FORESTER.

E. O. SIECKE, State Forester.

By act of the Thirty-fourth Legislature the office of State Forester was established, together with a department of forestry at the Agricultural and Mechanical College, with a division of forestry of the Agricultural Experiment Station with headquarters at College Station. In accordance with the law the State Forester has direction of all forest interests and all matters pertaining to forestry within the jurisdiction of the State. He is charged with the duty of enforcing all laws pertaining to the protection of forests and woodlands, preventing and extinguishing forest fires, collecting data relative to forest conditions, and co-operating with counties, towns, corporations and individuals in preparing plans for the protection, management and replacement of trees, wood lots and timber tracts. Under the forestry act the State is authorized to accept gifts of land to be used so as to demonstrate the practical utility of timber culture, water conservation and as refuges for game. The board of directors has the power to purchase lands in the name of the State, suitable chiefly for the protection of timber, as State forests, using for such purposes any special appropriations or any surplus money not otherwise appropriated which may be standing to the credit of the State forestry fund. All moneys received from the sale of wood, timber, minerals, or other products from the State forests and penalties for trespassing thereon shall be paid into the State Treasury and shall constitute a State forestry fund.

PART VI
REGISTER

REGISTER OF STUDENTS.

GRADUATE STUDENTS.

- Bone, Lewis Bernard Dallas
B. S., A. and M. College of Texas, 1918.
 Candidate for the Degree of Civil Engineer
- Cole, Ransom James Bryan
B. S., A. and M. College of Texas, 1916.
 Candidate for the Degree of Master of Science (in Agriculture)
- Daugherty, Martin Marion Bryan
B. S., A. and M. College of Texas, 1916.
 Candidate for the Degree of Master of Science (in Agriculture)
- Dickey, George Leon College Station
B. S., A. and M. College of Texas, 1921.
 Candidate for the Degree of Master of Science (in Agricultural Education)
- Elliott, Joel Wallace Belton
B. S., New Mexico College of Agriculture and Mechanic Arts, 1915.
 Candidate for the Degree of Master of Science (in Agriculture)
- Fouraker, Leroy Levi College Station
B. S., A. and M. College of Texas, 1914.
 Candidate for the Degree of Electrical Engineer
- Handrick, John Alvin College Station
B. S., A. and M. College of Texas, 1921.
 Candidate for the Degree of Master of Science (in Agricultural Education)
- Hanson, Wrathall King San Antonio
B. S., A. and M. College of Texas, 1916.
 Candidate for the Degree of Master of Science (in Agriculture)
- Jones, Luther Goodrich Temple
B. S., Princeton University, 1917.
 Candidate for the Degree of Master of Science (in Agriculture)
- Lomanitz, Sebastian Bryan
B. S., A. and M. College of Texas, 1908.
 Candidate for the Degree of Master of Science (in Agriculture)
- Long, George Alvin Bryan
B. S., A. and M. College of Texas, 1917.
 Candidate for the Degree of Master of Science (in Agriculture)
- Manning, Edmund Mitchell Thorsby, Alabama
B. S., Alabama Polytechnic Institute, 1916.
 Candidate for the Degree of Master of Science (in Agriculture)
- Merrell, Robert Erroll Keller
B. S., A. and M. College of Texas, 1919.
 Candidate for the Degree of Master of Science (in Architecture)
- Milton, Hugh Meglone College Station
B. S., University of Kentucky, 1919.
 Candidate for the degree of Electrical Engineer.
- Moore, Fleming George College Station
B. S., A. and M. College of Texas, 1902.
 Candidate for the Degree of Master of Science (in Agriculture)

- Munson, Thurmond Armour College Station
B. S., A. and M. College of Texas, 1910.
 Candidate for the Degree of Civil Engineer
- Nash, Elmer Christopher Washington, D. C.
B. S., A. and M. College of Texas, 1918.
 Candidate for the Degree of Master of Science (in Agricultural Education)
- Regenbrecht, Edward Michael College Station
B. S., A. and M. College of Texas, 1918.
 Candidate for the Degree of Master of Science (in Agriculture)
- Schaer, Robert College Station
B. S., A. and M. College of Texas, 1919.
 Candidate for the Degree of Chemical Engineer
- Sechrist, Gilbert H. Meriden, Kansas
B. S., Kansas State Agricultural College, 1916.
 Candidate for the Degree of Electrical Engineer
- Thadani, Khubchand Isardas Karachi, India.
Bachelor of Agriculture, University of Bombay, 1910.
 Candidate for the Degree of Master of Science (in Agriculture)
- Westcourt, Frederick William College Station
B. S., A. and M. College of Texas, 1920.
 Candidate for the Degree of Master of Science (in Agriculture)
- Wheelock, John Henry Ames, Iowa.
B. S., Iowa State College, 1920.
 Candidate for the Degree of Master of Science (in Agriculture)

UNDERGRADUATE STUDENTS.

Abbreviations.

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|----------------------------------|-----------------------------|
| AA.—Agricultural Administration. | EE.—Electrical Engineering. |
| AE.—Agricultural Education. | ME.—Mechanical Engineering. |
| Ag.—Agriculture. | TE.—Textile Engineering. |
| Ar.—Architecture. | VM.—Veterinary Medicine. |
| ChE.—Chemical Engineering. | IE.—Industrial Education. |
| CE.—Civil Engineering. | |
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| C.—Two-year Course in Agriculture. | |
| H.—Two-year Course in Textile Engineering. | |
| M.—Two-year Course in Agricultural Engineering. | |
| N.—Two-year Course in Engineering. | |
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| SP.—Special Student. | 1.—First Year of Two-Year Courses. |
| '21—Senior. | 2.—Second Year of Two-Year Courses. |
| '22—Junior. | |
| '23—Sophomore. | |
| '24—Freshman. | |
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|-----------------------------------|-------------------------|
| Abrams, Jake | '24 ME. Mart |
| Abrams, Norman Hughes | '24 ME. Sherman |
| Adams, Henry Clay | '23 ChE. Houston |
| Adams, Justin Thomas | C 1 San Angelo |
| Adams, Madison Hilliard | '23 CE Forney |
| Adams, Murray Louis | '24 CE. Beaumont |
| Adams, William Floyd | '24 EE. Brownwood |
| Alban, R. Emlyn | '24 ChE. Hereford |
| Albrecht, Frederick William | '22 Ag. Fort Worth |
| Albritton, John Allen | '24 AA. Kerens |

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| Alexander, E. R. | Sp. AE. | College Station |
| <i>A. B., Baylor University, 1919.</i> | | |
| Alexander, Robert Curtis, Jr. | '24 EE. | Henderson |
| Alexander, Rufus Eeds | C 1 | Wichita Falls |
| Alexander, Ralph Kimball | '22 CE. | Weatherford |
| Alexander, William R. | '22 ME. | Navasota |
| Allen, Bernice John | '24 Ag. | McGregor |
| Allen, J. C. | '24 EE. | Mart |
| Allen, Willis Lang | '23 Ag. | Marlin |
| Allison, Edward Wilson | '24 Ar. | Bishop |
| Allison, Ulmont Sterling | '24 CE. | Bishop |
| Almond, Lyle Seymour | C 1 | Del Rio |
| Alsmeyer, Henry Louis | M 2 | Mission |
| Alsmeyer, Louis Henry | '21 Ag. | Mission |
| Amberg, Clinton Gerhard | '23 EE. | La Grange |
| Amsler, Jack Bennard | '24 ChE. | Hempstead |
| Amsler, Neill Fred | '23 ChE. | Brenham |
| Anderson, Guy Dillard | '21 ME. | Wichita Falls |
| Anderson, Howell Rufus | '23 CE. | Haskell |
| Anderson, James P. | Sp. Ag. | Purdon |
| Anderson, William Henry | C 1 | Calvert |
| Andrew, Hunter Bertram | '24 ChE. | San Angelo |
| Andrews, Homer Esteen | C 2 | Jean |
| Andrews, William Henry Bryan | '22 EE. | McKinney |
| Anglin, Marvin Henry | '23 CE. | New Orleans, La. |
| Ansicks, Carl Sommer | '22 TE. | Calvert |
| Antoline, Sam | '24 AA. | Woodworth, La. |
| Argudin, Manuel Zarrabal | '23 TE. | Orizaba, Ver., Mex. |
| Arick, Melvin Ray | '24 CE. | Fort Wayne, Ind. |
| Armistead, George, Jr. | '23 ChE. | Hairston |
| Armstrong, Everett Louis | Sp. Ag. | Hebbronville |
| Armstrong, Paul Wendell | '22 CE. | Amarillo |
| Armstrong, Walter H. | '21 CE. | Paterson, N. J. |
| Arnold, Raymond Wesley | '24 EE. | San Antonio |
| Asbury, Joe Gentry | '24 EE. | Tulia |
| Ashburn, Redman Franklin | '23 EE. | Denison |
| Ashford, Langston | '23 EE. | Navasota |
| Ashley, Reuben Dewitt. | C 2 | San Saba |
| Ashmore, Daniel Garfield | Sp. Ag. | Dallas |
| Ashworth, Durward Belmont | '23 CE. | Weatherford |
| Askey, John Nixon | Sp. Ag. | Clarkwood |
| Aten, Ivan F. | Sp. Ag. | Round Rock |
| Atkins, Hardin Louis, Jr. | '22 Ag. | Bandera |
| Atkinson, Andrew Chandler | '24 Ag. | McKinney |
| Atkinson, James Thomas | Sp. Ag. | McDade |
| Attebery, William | '21 Ag. | Marshall |
| Aubin, Charles T. | '23 Ar. | San Antonio |
| Austin, Cleve Ross | M 1 | Lamesa |
| Axe, Paul A. | '21 ME. | Texas City |
| Axe, Rudolph Alfred | '23 ME. | Texas City |
| Baccus, Ira Bishop | '24 CE. | Plano |
| Bailey, Edmund Ira | '24 EE. | Waco |
| Bainbridge, Eugene Magill | '24 EE. | Sweetwater |
| Bairfield, Charles E. | '24 AA. | Clarendon |
| Baker, Charles Lorin | Sp. Ag. | Bryan |
| Baker, Dayton U. | '23 EE. | Haskell |
| Baker, John Farris | '24 Ag. | Girvin |
| Baker, John Ford | '24 ME. | Fort Worth |
| Baker, Thomas Harrison, Jr. | '23 Ar. | Denison |
| Baldwin, Bobbie Calvin | C 1 | Corpus Christi |

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| Ballard, William Lambert..... | Sp. Ag. | Dallas |
| Barber, Elmo Clinton..... | '24 Ag. | Streeter |
| Barber, John Loper..... | '24 EE. | Fort Worth |
| Barclay, John Forbes | '23 ME. | Reagan |
| Bare, John Harold..... | '23 ME. | Yoakum |
| Barker, Wade Wilson..... | '24 Ag. | Taylor |
| Barnes, Bonner Herbert..... | '21 ChE. | Coleman |
| Barnes, Joe Wellington, Jr..... | '24 CE. | McKinney |
| Barnett, Marion Bland | '24 EE. | McKinney |
| Barnett, Weaver | '24 Ag. | Novice |
| Barrenechea, Francisco A. | '24 Ag. | Mexico City, Mexico |
| Barrett, William T..... | C 1 | Madisonville |
| Bartholomew, Robert O. | '23 ME. | Dallas |
| Bartlett, Joseph Webster..... | '23 ChE. | Dallas |
| Bartlett, Silas Conoly..... | '24 Ag. | Marlin |
| Baskett, John Lewis..... | '22 CE. | Dallas |
| Baskin, Benajah Jefferson | '23 Ag. | Cameron |
| Bass, William Joseph Franklin.... | '24 CE. | Walnut Springs |
| Batchler, Hal | C 1 | Ferris |
| Bate, Irion | '24 EE. | Dwire |
| Baty, James Bernard | '24 ChE. | Taylor |
| Baucom, John W..... | '21 EE. | Milford |
| Bauerlein, Thomas Jefferson | Sp. Ag. | Medina |
| Baugh, Dewey Lawrence..... | M 2 | Flatonia |
| Baum, Oscar Samuel..... | H 1 | Houston |
| Baur, Louis William August | '22 ME. | Moulton |
| Baxter, Walter Hope, Jr..... | '23 CE. | Seguin |
| Beale, Requa Leonard..... | '23 EE. | Fort Worth |
| Beauchamp, Dewey S. | Sp. Ag. | Dallas |
| Beazley, Thomas Harrison..... | C 2 | Crockett |
| Beazley, William Henry..... | '23 ME. | Crockett |
| Beck, Eugene D..... | C 2 | Austin |
| Beckum, James Arthur..... | '24 ME. | Midlothian |
| Beebe, Orlo Traverse..... | '24 EE. | Plainview |
| Beesley, Ben Branson..... | '22 CE. | Lancaster |
| Belew, Sam A, Jr..... | '24 EE. | Midlothian |
| Bell, Francis Leonard..... | '22 CE. | Marshall |
| Bell, George | Sp. Ag. | Annona |
| Bell, James Allen..... | Sp. Ag. | Ames |
| Belt, James Delany..... | Sp. Ag. | Corsicana |
| Bennett, Fred Townsend..... | '24 Ar. | Mexia |
| Bennett, Vol, Jr..... | '22 Ag. | Yoakum |
| Benton, James Henry..... | Sp. Ag. | Dallas |
| Berendt, Elmore Frederick..... | '24 EE. | San Antonio |
| Berger, Joseph Paul..... | Sp. Ag. | New Castle, Pa. |
| Berger, Lewis Audrey..... | '24 Ag. | Flatonia |
| Berry, Lionel Desmond | C 2 | Enloe |
| Berryman, Christopher Columbus.... | Sp. Ag. | College Station |
| Bertrand, Louis Oge..... | '23 EE. | San Antonio |
| Bertschler, Frank Lee | '21 Ag. | Kosciusko, Miss. |
| Best, Richard Albin..... | '23 TE. | Houston |
| Bettis, Irvin Hunter..... | '21 ME. | Beaumont |
| Beyer, Alfred Grover..... | Sp. Ag. | Ellinger |
| Billingsley, Archie Lloyd..... | '24 EE. | Houston |
| Billingsley, Bruce Calder..... | '22 ME. | Galveston |
| Bimmerman, Harry Gordon..... | '22 CE. | Sherman |
| Bimmerman, Paul Henry..... | '22 CE. | Sherman |
| Bintliff, Victor James..... | Sp. Ag. | Austin |
| Birdwell, Leroy | '24 ME. | Overton |
| Birk, Charles Ernest | '21 Ag. | Iowa Park |
| Bizzell, William Sangster..... | '22 CE. | College Station |

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| Black, Alan Rolland..... | '24 ME. | Ingleside |
| Black, Lewis K..... | Sp. Ag. | Temple |
| Blackburg, Sol Nathan..... | Sp. Ag. | Ellenville, N. Y. |
| <i>D. M. V., Cornell University, 1917.</i> | | |
| Blackford, John..... | N 1 | Delavan, Wis. |
| Blair, Tom Cochran..... | '24 CE. | Belton |
| Blake, Charles Osman..... | N 2 | Dallas |
| Blankinship, Wallace B..... | '24 EE. | Lubbock |
| Blanton, Don C..... | '24 CE. | Gainesville |
| Blaschke, Raymond George..... | C 1 | Skidmore |
| Blocksom, Frederick Walter..... | '24 CE. | Plainview |
| Bloodworth, John Edward, Jr..... | '21 Ag. | Clarksville |
| Blount, Wilfred Garrison..... | '23 Ag. | Nacogdoches |
| Blum, Charles James..... | '23 EE. | San Antonio |
| Blumenthal, Charles..... | '21 Ag. | Houston |
| Bodine, Newton Barnart..... | '24 CE. | San Angelo |
| Boethel, Herbert Henry Adolph..... | N 1 | Hallettsville |
| Boger, Allen Dickson..... | '24 ME. | Vernon |
| Bohls, Jesse Gottlieb..... | C 2 | Pflugerville |
| Bone, Norfleet Giddings..... | Sp. Ag. | Richardson |
| Boney, Joseph Warren..... | Sp. Ag. | Bedias |
| Bonnett, Ralph Gazelle..... | '24 Ag. | San Antonio |
| Boone, Bernard Oliver..... | '24 Ag. | West |
| Boone, Foster James..... | Sp. Ag. | Fort Worth |
| Boone, James Madden..... | '24 ME. | Cleburne |
| Boone, Lloyd Bates..... | '24 Ag. | West |
| Boone, Marvin Chester..... | '24 CE. | Jefferson |
| Boriskie, Frank William..... | '22 CE. | Bryan |
| Bose, John Carlos..... | '23 CE. | San Antonio |
| Bossy, Herbert Grant..... | '22 EE. | Fort Worth |
| Bossy, Reginald Arthur..... | '24 ME. | Fort Worth |
| Boully, Denis William..... | Sp. Ag. | Bryan |
| Bourke, Lionel Joseph..... | '22 EE. | Yoakum |
| Bowden, Edward Lane..... | '24 Ag. | Lockhart |
| Bowers, Frederick William..... | C 1 | Agua Dulce |
| Bowie, Joseph P..... | Sp. Ag. | Sentinel, Okla. |
| Boyce, John Thomas..... | '22 AE. | Okolona, Ark. |
| Boyd, Rufus Edward..... | Sp. Ag. | Jacksonville, Ark. |
| Boyett, Charles Comer..... | '24 EE. | Hope, Ark. |
| Boykin, Garland Lester..... | '22 Ag. | Polytechnic |
| Boykin, Rosier Lee..... | Sp. Ag. | Waynesboro, Miss. |
| Boyle, Horace Blaine..... | '23 Ag. | Roxton |
| Bradley, Calvin Luther..... | C 2 | Mountain View, Okla. |
| Bradshaw, Weldon Leroy..... | '23 Ar. | San Antonio |
| Branch, Leonard..... | Sp. Ag. | Lamesa |
| Brandt, Allen Harvey..... | '24 AA. | Wallis |
| Brandt, Edward Dupree..... | '23 CE. | Temple |
| Brewer, Harrison Ben..... | Sp. Ag. | Henryetta, Okla. |
| Bridges, Robert Earle..... | '22 CE. | Winfield |
| Brient, Albert Sidney..... | '24 ME. | San Antonio |
| Brinkmann, Edgar..... | '22 ME. | Comfort |
| Brison, Fred Robert..... | '21 Ag. | Pittsburg |
| Brison, Ross Harrison..... | '23 Ag. | Pittsburg |
| Brooks, John Morgan..... | '24 Ag. | Falfurrias |
| Brooks, Thomas Harry..... | '24 AA. | Wharton |
| Brown, Ben Franklin..... | '23 Ag. | Rockwall |
| Brown, Dewey Clark..... | N 1 | Aledo |
| Brown, Edgar Allen..... | '24 CE. | Fort Worth |
| Brown, Elma Leon..... | Sp. Ag. | Bryan |
| Brown, Fred D..... | '24 Ag. | Comanche |
| Brown, Gilbert Humphrey..... | '24 ME. | Berwick, La. |

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| Brown, Henry Lee | Sp. Ag. | Devine |
| Brown, Joe Carraway | '22 Ag. | Waco |
| Brown, Joseph Hyal | '23 EE. | Fort Worth |
| Browning, Richard Hardage | N 2 | Dallas |
| Brownlee, Alford Perian | '24 TE. | Dallas |
| Broxton, Malcolm Irwin | '23 Ag. | Rockdale |
| Broyles, James E. | '24 ME. | Riverside |
| Bruhl, Edwin Louis | '23 CE. | Llano |
| Brummett, Burette Bassett | '24 ME. | Scranton |
| Brusenhan, Emmett | '24 Ag. | Coleman |
| Bryan, Arthur Hampton | C 1 | Richmond |
| Bryan, Clifford La Fayette | '24 ME. | Breckenridge |
| Bryan, Therman Earle | '24 ME. | Pecos |
| Buchan, Fritz Emil | '22 ChE. | Galveston |
| Buchanan, Robert L. | Sp. Ag. | Augusta, Ark. |
| Buckley, Charles Clark | '24 Ar. | Jourdanton |
| Buckner, Floyd King | '23 CE. | Weatherford |
| Buescher LeRoy August | '24 CE. | Moulton |
| Buescher, Norman Emil | '22 Ag. | Smithville |
| Buford, Hal Hickman | '24 Ag. | Minter |
| Buie, Forest Peyton | '21 CE. | Waxahachie |
| Bull, James Frederick | '24 CE. | Perryton |
| Bullock, Wendell Barnes | '23 EE. | Weatherford |
| Burden, John Paul | '24 ME. | Gordonville |
| Burges, Richard Joseph | '24 Ag. | Seguin |
| Burkhalter, Daniel Forest | Sp. ME. | Timpson |
| Burmeister, Gustave | '24 Ag. | Christine |
| Burnam, Robert Maurice | M 2 | Marble Falls |
| Burns, Leslie Lewis | '22 EE. | Yoakum |
| Burns, Patton Wright | '23 Ag. | Cuero |
| Burns, William Wright | N 1 | Lamesa |
| Burr, James Ballantyne | '22 EE. | Dallas |
| Burrow, Herbert A. | H 1 | Nordheim |
| Burrows, Preston Scott | '24 EE. | Granger |
| Burton, Miles Kirk | '24 CE. | Galveston |
| Bush, Nolan Austin | Sp. Ag. | Naples |
| Bussell, Ralph Wayman | '21 ME. | Palacios |
| Bynum, William Arnice | '24 ChE. | Midlothian |
| Byrd, Olon Lowery | '23 Ag. | Hewitt |
| Byron, Leonard Attwell | '22 ME. | Weatherford |
| Cabanas, Alberto M. | Sp. ME. | N. Laredo, Mexico |
| Cabell, Ben E. | Sp. Ag. | San Diego, Cal. |
| Calder, Rhoden | '24 Ag. | San Antonio |
| Caldwell, Joe Martin | '21 Ag. | Midland |
| Calhoun, Dan | H 1 | Charco |
| Calhoun, John Clinton, Jr. | '23 ME. | Houston |
| Calvin, Elmer Ben | '24 CE. | Markley |
| Camp, Blalock Clyde | M 2 | Thornton |
| Canion, Claude | '24 Ag. | Port Lavaca |
| Cape, John Dewey | '21 CE. | San Marcos |
| Cappleman, Everette Jones | Sp. Ag. | Windom |
| Cappleman, Lester James | '24 Ag. | Honey Grove |
| Carlisle, John Taylor | '22 Ag. | Houston |
| Carlton, Duane William | '23 Ag. | Fort Worth |
| Carlton, Robert Ardine | '23 EE. | Fort Worth |
| Carmichael, John Fears | Sp. Ag. | Granbury |
| Carmichael, Pome Roy | Sp. Ag. | Granbury |
| Carmichael, Reese Harvie | C 2 | Henrietta |
| Carothers, Oran W. | C 1 | Lometa |
| Carpenter, James Franklin | Sp. Ag. | Commerce |

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| Carr, Charlie Eldred | '21 | Ag | Bay City |
| Carroll, Bond Ernest | N 1 | | Houston |
| Carroll, Hugh Anton | '23 | EE. | Galveston |
| Carroll, Homer Clarence | '23 | CE. | Longview |
| Carruthers, Robert Loney | '22 | ChE. | Fort Worth |
| Carson, Charles Willis | '22 | CE. | Eagle Pass |
| Carver, George La Fayette | '24 | ME. | San Antonio |
| Casady, Kenneth Boyce | H 1 | | Houston |
| Cassidy, Paul Eugene | '23 | EE. | Dallas |
| Castle, William Graves | C 2 | | Lake Charles, La. |
| Cavitt, Hugh Samuel | Sp. Ag. | | Holland |
| Cejka, Fred George | Sp. Ag. | | Sublime |
| Chamberlain, George Shelby | Sp. Ag. | | Sulphur Springs |
| Chambers, Chester Hall | '22 | Ag. | Santa Anna |
| Chambers, John Bennette | '23 | Ag. | Santa Anna |
| Chang, Ching Yueh | '24 | Ag. | Taiping fu, Anhwei, China |
| Chapa, Emilio | '24 | Ag. | San Antonio |
| Chapman, Dewitt Charles | '24 | Ag. | Waco |
| Chapman, Stanley Parks | N 2 | | Hutchins |
| Chastun, James Henry | Sp. Ag. | | Ashwood |
| Cherry, Robert Leslie | '24 | Ag. | Giddings |
| Childers, Reddin Raymond | '21 | VM. | Jasper |
| Chisholm, Cecil Jackson | '24 | EE. | Waco |
| Choate, Marcos Hays | C 1 | | Kennedy |
| Chowning, Charles Haynes | C 1 | | San Antonio |
| Christian, Emory | '24 | ChE. | Waco |
| Christopher, Uriel Echols | '22 | Ag. | Plano |
| Christopherson, Oscar C. | '24 | EE. | Coolidge |
| Cimo, Philip | '23 | EE. | Waco |
| Clampitt, Ray Mansker | '24 | Ag. | Ballinger |
| Clanton, Raleigh Wells | '22 | EE. | Dallas |
| Clark, Alton Renerrick | '24 | EE. | Cross Plains |
| Clark, Ben C. | Sp. Ar. | | Cleburne |
| Clark, Charles Richard | '22 | EE. | San Antonio |
| Clark, Harry John | C 2 | | Bay City |
| Clark, Prior H. | Sp. Ag. | | Hillsboro |
| Clarke, Charles Cecil | '22 | Ag. | Little Rock, Ark. |
| Clarke, James Tidmarsh | '24 | EE. | San Antonio |
| Clarke, James Walter | H 1 | | Comanche |
| Clay, Louis House | '24 | ME. | Fort Worth |
| Claypool, Thaddeus Hugh | '21 | AE. | Waco |
| <i>A. B., Baylor University, 1895; A. B., Yale University, 1898; ibid, 1902.</i> | | | |
| Clayton, John Bunyan | Sp. Ag. | | Greenville |
| Clayton, Robert Lee | '21 | CE. | Waco |
| Cleaver, Thurman Tennyson | '24 | EE. | Troup |
| Clement, George Kilgore | '23 | EE. | Cameron |
| Clement, Warren B., Jr. | '23 | Ar. | Denton |
| Cleveland, Raymond Baker | '23 | Ag. | Osceola |
| Cline, William Benjamin, Jr. | '24 | CE. | Bryan |
| Clinton, Daniel Darius | '21 | Ag. | Commerce |
| Cloer, Venus Uranus | '22 | ChE. | Pilot Point |
| Close, Cephas Major | '23 | Ag. | Dallas |
| Coale, Cecil Roberts | '24 | EE. | Orange |
| Cobb, Henry T. | Sp. Ag. | | Fate |
| Cobb, James Clifton | C 1 | | Waelder |
| Cochran, Burrell Bainster | '22 | ME. | Houston |
| Cocke, Nalle | '24 | CE. | Waco |
| Cockrell, Thomas Jefferson | Sp. Ag. | | Dallas |
| Coffey, Whitman | '24 | EE. | Lampasas |
| Coffin, James Watts | H 2 | | Itasca |

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| Coffin, Paul C. | '21 | ChE. | Blum |
| Coldwell, William Orville..... | '24 | EE. | Temple |
| Cole, Charlie Mason..... | '21 | TE. | Bryan |
| Cole, Thurman Loren..... | C 1 | ..... | Sterling City |
| Collins, Edward Schanck..... | '24 | EE. | Jefferson |
| Collins, Joe Clancy..... | Sp. | EE. | Arlington |
| Collins, Leon Liddell | '22 | ChE. | Floydada |
| Colston, Raleigh | '23 | ME. | Kingsville |
| Colyer, Otto Marrcial, Jr..... | '24 | EE. | Uvalde |
| Combs, Roy Lee..... | Sp. | Ag. | Cleburne |
| Compton, Charles Reid..... | '23 | Ag. | Waco |
| Compton, Henry Walford..... | '24 | Ag. | San Angelo |
| Conley, Newton | '24 | EE. | Perryton |
| Conally, Bob Henry..... | '24 | EE. | McGregor |
| Conally, John Thomas..... | '24 | Ag. | Beeville |
| Conner, Willie Fletcher..... | M 1 | ..... | Lamesa |
| Contreras, Herman Howard..... | '23 | ME. | Rio Grande |
| Cook, Charlie Cottingham..... | N 1 | ..... | Maxwell |
| Cook, Dugger Elmus..... | '24 | AA. | Gilmer |
| Cooper, Albert Mason..... | '21 | Ag. | Bryan |
| Cooper, Forrest Walter..... | '24 | Ag. | Center |
| Corbett, William Carl..... | '24 | ChE. | Fort Worth |
| Cordell, Ben Early..... | '23 | CE. | San Antonio |
| Corley, John Robert..... | '24 | EE. | Mexia |
| Cotterell, John Moore..... | '24 | Ag. | Houston |
| Cottingham, William Kellie..... | '24 | Ag. | Milford |
| Covington, Cyrus C..... | M 1 | ..... | Goliad |
| Cowan, Paul | '24 | Ag. | Dallas |
| Cox, Carl | C 1 | ..... | Palmer |
| Cox, Demmie Herbert..... | '24 | CE. | Houston |
| Cox, Moses Eugene..... | Sp. | CE. | Gray Court, S. C. |
| <i>B. S., Clemson College, 1916.</i> | | | |
| Cox, Ramsey Mason, Jr. | '24 | Ag. | Waco |
| Cox, Roland O..... | '24 | EE. | Garrett |
| Cox, Willard Wilkes..... | '22 | CE. | Smithville |
| Coy, Andres | '23 | EE. | San Antonio |
| Crane, Clyde C..... | '22 | ChE. | Wichita Falls |
| Crawford, Clarence Henry..... | '23 | EE. | Silsbee |
| Crawford, James M..... | '23 | EE. | Devine |
| Crawford, Leonard Hayden..... | '24 | CE. | Burkburnett |
| Crawford, Robert Allison..... | '24 | ME. | Tyler |
| Cretein, Paul | '22 | ChE. | Dallas |
| Crippen, Walter | '21 | ME. | Waco |
| Crisp, Albert Sidney..... | '24 | Ag. | Dallas |
| Crites, Edwin Albert..... | '22 | ChE. | Houston |
| Crittenden, William Madison..... | Sp. | Ag. | Tyler |
| Crockett, Robert Slater..... | '24 | ChE. | Chapel Hill |
| Crooke, Lawrence Frank..... | Sp. | Ag. | Conroe |
| Crosnoe, Clyde Cecil..... | '23 | CE. | Hope, Ark. |
| Crow, Clarence L..... | Sp. | Ag. | Groveton |
| Cruickshank, John Pownall..... | '22 | EE. | Corpus Christi |
| Culbertson, Roy | Sp. | ME. | Hobart, Okla. |
| Cummings, Oscar Stuart..... | C 1 | ..... | Houston |
| Cunningham, John Frank..... | '23 | ChE. | Fort Worth |
| Currie, John Felix..... | '22 | ChE. | Houston |
| Currie, Victor Monte..... | '23 | CE. | Houston |
| Curry, Edwin Paxton..... | C 2 | ..... | Bryan |
| Cushing, Emory Clayton..... | '24 | Ag. | Stockdale |
| Dabney, Virgil Claud..... | '23 | CE. | San Antonio |
| Dahlberg, Gunnard Alvin..... | '23 | Ag. | Taylor |

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| Daniel, James R. | '24 ME. | Gonzales |
| Daniel, Joseph S. | '21 Ag. | Corsicana |
| Darby, Eugene Benjamin | '24 CE. | Houston |
| Dart, Miles Ethelbert | '24 EE. | Dallas |
| Dashiell, George R., Jr. | '24 ChE. | San Antonio |
| Davidson, Charles Eugene | '21 EE. | Bay City |
| Davidson, George Alexander | '22 EE. | Bryan |
| Davidson, Jasper Ashworth | '22 Ag. | New Boston |
| Davidson, Ray Elmer | Sp. EE. | Pearland |
| Davidson, Walter H. | '24 CE. | Fort Worth |
| Davis, Artie Howard | Sp. Ag. | Jasper |
| Davis, Birdwell Cape | C 2 | Sonora |
| Davis, Charlie Howard | '22 EE. | Waxahachie |
| Davis, David | '24 Ag. | Corsicana |
| Davis, David Paul | Sp. Ag. | Ballinger |
| Davis, Edgar Albert | '24 TE. | Itasca |
| Davis, Henry Balding | Sp. Ag. | Fulton, Ark. |
| Davis, Harry Claiborne | '22 ME. | Dallas |
| Davis, Hubert G. | Sp. CE. | Leonard |
| Davis, Leslie Curtis | Sp. Ag. | Rockdale |
| Davis, Roger Floyd | '22 ChE. | Whitewright |
| Davis, Rolla Metcalfe | '24 ME. | San Antonio |
| Davis, Thomas Clement | '23 AA. | Marfa |
| Dean, Albin Ashley | Sp. Ag. | San Saba |
| Deats, Lawton Edwin | '24 ME. | Houston |
| DeBerry, Gordon Edward | C 2 | Bogata |
| Debnam, Marcus McKinley | M 1 | Lamesa |
| Deden, Edward Martin | C 1 | Houston |
| Dees, David B. | Sp. Ag. | Bland Lake |
| Delany, Jack William | '24 AA. | Houston |
| DeLee, Herbert Everard | '23 EE. | Dallas |
| DeLonge, Walter Howard | '23 EE. | Sherman |
| DeMaret, Daniel Taliaferro | '22 Ag. | Bryan |
| Denison, Ethelbert Bunkar | '24 EE. | Waco |
| Denison, George Ames | '21 ChE. | Tyler |
| Denk, Clarence George | Sp. Ar. | Cicero, Ill. |
| Denning, Charles Oscar | '21 ME. | Mexia |
| Denny, William M. | '21 EE. | Crockett |
| Denson, Jesse Dean | N 1 | Granger |
| DePasquale, Domenic Victor | '24 CE. | Dickinson |
| DeStefano, Arthur | Sp. EE. | Dallas |
| Detering, Herman Eberhard | '24 AA. | Houston |
| Dewald, John Paul | Sp. AE. | Pendleton |
| Dewey, Edward Leon | '24 EE. | Tullahoma, Tenn. |
| Dick, John McClintock, Jr. | C 2 | Barboursville, W. Va. |
| Dickerson, Sam Lanham | '24 EE. | Sulphur Springs |
| Dickson, Dexter Sampson | '24 AA. | Navasota |
| Dickson, Hugh | H 2 | Galveston |
| Dieterich, Arthur Frederick | '22 Ag. | Dallas |
| Dietrich, Philip Karl | Sp. Ag. | Riverside, N. J. |
| Diller, Frank | Sp. ME. | Albany |
| Dillingham, Harley Clay | '22 EE. | Fort Worth |
| Dinan, Leonard Frederick | '23 Ag. | Silsbee |
| Dinwiddie, Otto Dudley | '24 Ag. | Tulia |
| Dixon, Bryan De Kalb | '24 CE. | Houston |
| Dockal, John | N 2 | Alief |
| Dockum, Oscar Leonard | '22 ME. | Corsicana |
| Doherty, Norman Meldrum | M 2 | Houston |
| Doherty, Wilfred Thomas | '22 ChE. | Houston |
| Donald, Pryor | '24 Ag. | Justin |
| Dornbluth, Carl Henry | '24 AA. | Cuero |

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| Dougherty, Harry | '22 EE. | Blackwell, Okla. |
| Douthit, J. D. | N 2 | Lueders |
| Douthit, Lawrence Henry | Sp. AA. | Dallas |
| Dowlen, Glen Wade | C 1 | Happy |
| Downs, Frederick Holston, Jr. | '23 Ag. | Fal, La. |
| Drake, Clarence Ray | '21 EE. | Maypearl |
| Drake, Rowe Shear | '24 EE. | Winchester |
| Dreeke, Harold Lewis | '24 Ar. | San Antonio |
| Driggs, Orval Truman | N 1 | Talihina, Okla. |
| Drisdale, John Virg. | '24 Ag. | Juno |
| Drummett, Paul Wright | '21 EE. | Houston |
| Drury, Cooper Cecil | '24 Ar. | Calvert |
| DuBois, Harold Vantrese | '24 TE. | Dallas |
| Dudley, Daniel Ishom | '24 Ag. | Plano |
| Duff, Oscar Randolph | '24 ChE. | Palestine |
| Dugosh, Raymond Adolph | '24 CE. | San Antonio |
| Duke, Ernest Ray | C 2 | Claude |
| Dunagan, William Thornton | '24 EE. | Tolar |
| Dunn, Herman | '23 ChE. | Dallas |
| Dunn, Sul Ross | '21 VM. | Bryan |
| Dunnam, Leigh Keats | '24 ME. | Corpus Christi |
| Durham, Charles Kenedy | '24 TE. | Waco |
| Durham, William Webster | '24 CE. | Comanche |
| Dwyer, James Joseph | N 1 | Galveston |
| Dwyer, Patrick Anthony | '23 AA. | San Antonio |
| Dycus, Ralph W. | C 1 | Farwell |
| Dyer, Claude B. | '21 Ag. | Tulia |
| Dykes, Jefferson Chenoweth | '21 Ag. | Dallas |
| Eaglin, Kenneth W. | Sp. Ag. | Anadarko, Okla. |
| Eargle, Robert Gray | '24 EE. | Fort Worth |
| Earle, Julius Richard | Sp. Ag. | Wills Point |
| Earle, John Sears | '24 TE. | Waco |
| Easley, Ray K. | '21 ChE. | Fort Worth |
| Easton, Robert Browning | '23 Ag. | Sinton |
| Eastwood, John Vance | '24 EE. | Bryan |
| Eaves, Robert A. | Sp. Ag. | Doucette |
| Ebeling, Leo Reynold | '22 ME. | Plainview |
| Edgar, James Hardy | '23 Ag. | Cuero |
| Edgley, Max | '24 CE. | Port Arthur |
| Edwards, Clyde Henry | '21 ME. | San Antonio |
| Edwards, Cyrus Leroy | '24 ME. | San Antonio |
| Edwards, Charles Vernon | '22 ChE. | Fort Worth |
| Egan, Allen Lyman | '23 Ag. | Dallas |
| Egger, Harmon Wilson | '21 ME. | Greenville |
| Ehlert, Robert Jerome | '22 Ag. | Houston |
| Eifler, William Frederick | '24 EE. | San Antonio |
| Elder, Theodore Allen | '24 Ag. | Palacios |
| Elkins, Leota Walter | Sp. Ag. | Tulia |
| Elliott, Lawrence Clifton | '24 EE. | Greenville |
| Ellisor, Grover C. | Sp. Ag. | Evergreen |
| Ellwood, Leonard Eugene | C 2 | El Campo |
| Emerson, Robert Haley | '24 Ag. | Marlin |
| Erhard, Merton T. | '23 EE. | Bastrop |
| Ernest, William Herbert | '24 ME. | Cooper |
| Erskine, Alexander Madison | '24 CE. | San Antonio |
| Erwin, Will Bailey | '24 CE. | Fort Worth |
| Eschenburg, Carl Robert | '24 ChE. | Floresville |
| Estill, Junius Fishburne | '24 ME. | Wharton |
| Eubank, Bransford | '22 Ag. | Byrds |
| Eubank, Broocke Knight | '24 ChE. | Cross Plains |

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| Evans, Andrew Jackson..... | '24 | EE. | | San Antonio |
| Evans, Sterling Cicero..... | '21 | Ag. | | Pearsall |
| Everett, William Joseph..... | '23 | EE. | ..... | Fort Worth |
| Ewbank, Eric Erroll..... | '24 | EE. | ..... | San Benito |
| Fahey, Gerald Calhoun..... | '22 | Ag. | ..... | Navasota |
| Fahrenthold, William Charles..... | H 1 | ..... | ..... | El Campo |
| Fair, Dewald L..... | Sp. | Ag. | ..... | Hillsboro |
| Farrell, James Leonard..... | '21 | ChE. | ..... | Humble |
| Fason, Eugene B..... | '22 | EE. | ..... | Waco |
| Faulkner, Richard Campbell..... | '22 | CE. | ..... | Sherman |
| Faure, Leonard Leopold..... | '23 | ChE. | ..... | Houston |
| Fawcett, Horace Keyes..... | '24 | Ag. | ..... | Del Rio |
| Fay, Owen James..... | '23 | EE. | ..... | Taft |
| Feemster, Lee Terrell..... | '23 | Ar. | ..... | Polytechnic |
| Fehlis, Robert..... | Sp. | Ag. | ..... | Buda |
| Felder, John Matthew..... | '24 | EE. | ..... | Aransas Pass |
| Fenstermaker, Arthur..... | '23 | Ar. | ..... | San Antonio |
| Ferguson, Herbert Newton..... | '24 | Ag. | ..... | Wichita Falls |
| Ferguson, Jasper Butler..... | '24 | Ag. | ..... | Wichita Falls |
| Ferrucci, Ferruccio Joseph..... | '24 | CE. | ..... | Galveston |
| Field, William West..... | '23 | EE. | ..... | Lockhart |
| Figari, Charles..... | '21 | Ag. | ..... | Lima, Peru, S. A. |
| Finn, Dave James..... | '21 | EE. | ..... | Little Rock, Ark. |
| Finney, Clarence Jack..... | '22 | Ar. | ..... | Wills Point |
| Fischer, Chester Fred..... | '22 | ME. | ..... | New Braunfels |
| Fiser, Willis Calvin..... | '22 | EE. | ..... | Lorena |
| Fish, Alvin Henry..... | Sp. | Ag. | ..... | Fort Worth |
| Fitzgerald, James K..... | '23 | EE. | ..... | Beaumont |
| Fitzwilliam, Morgan Sayers..... | '23 | EE. | ..... | Smithville |
| Fletcher, William Andrew..... | '23 | Ag. | ..... | Beaumont |
| Flinn, Fontaine Edward..... | '22 | Ag. | ..... | Cameron |
| Flint, William Edwin..... | '24 | Ag. | ..... | San Antonio |
| Floyd, Charles Henry..... | '24 | EE. | ..... | Cisco |
| Foerster, Alvin E..... | '24 | AA. | ..... | Rosenberg |
| Folwell, Tom..... | Sp. | Ag. | ..... | Tecumseh, Okla. |
| Forbes, Archibald Alexander..... | '24 | ME. | ..... | Houston |
| Forbes, Arthur Lee..... | '21 | CE. | ..... | Houston |
| Ford, Amos Weeks..... | '24 | CE. | ..... | Bellevue |
| Forgason, Jack Pope..... | '24 | Ag. | ..... | San Antonio |
| Forrest, Francis Bedford..... | '23 | Ag. | ..... | Waxahachie |
| Forsyth, David Manson..... | '23 | ME. | ..... | McKinney |
| Fortier, Joseph Edgar, Jr..... | '23 | Ar. | ..... | San Antonio |
| Foster, Robert Field..... | '24 | ME. | ..... | Fort Worth |
| Foster, Thomas Orion..... | '22 | CE. | ..... | San Antonio |
| Foster, Willett Sims..... | '22 | Ag. | ..... | Marlin |
| Fountain, James Milton..... | '24 | AA. | ..... | Bryan |
| Fouraker, Robert Winston..... | '22 | ChE. | ..... | Dallas |
| Fox, John U..... | Sp. | Ag. | ..... | Broadus |
| Fram, Philip..... | '23 | CE. | ..... | Dallas |
| Frame, William DeVere..... | '23 | EE. | ..... | Denison |
| Francis, George Doran..... | '24 | TE. | ..... | Cleburne |
| Franck, Sol Rhein..... | '24 | ME. | ..... | San Antonio |
| Franke, Paul Conrad..... | '22 | TE. | ..... | El Campo |
| Fraser, Claud Kirk..... | '23 | Ag. | ..... | Robstown |
| Frazier, Oscar Howard..... | '22 | Ag. | ..... | Hillsboro |
| Frede, Leo Henry..... | '22 | Ag. | ..... | La Grange |
| Frederick, Wayne B..... | '24 | CE. | ..... | Blooming Grove |
| Freeman, Ernest Maynard..... | '22 | CE. | | Marshall |
| Freeman, Tom..... | '24 | TE. | | McGregor |
| Friedlander, Louis Herman..... | '22 | ChE. | | Calvert |

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| Friend, William Heartsill..... | '21 Ag. | Marshall |
| Fritsch, Harry Charles..... | Sp. Ag. | Ellinger |
| Fritts, Thomas Albert..... | '21 AE. | Fort Worth |
| Fuchs, Joseph | '22 ChE. | Cypress Mills |
| Fuller, Joe Rice..... | '24 CE. | Woodville |
| Furman, Edward Edwards | '24 EE. | Corpus Christi |
| Furman, McIver | '24 ME. | Corpus Christi |
| Furneaux, William Frederick..... | '22 Ag. | Dallas |
| Fussell, William Stewart..... | '24 CE. | Polytechnic |
| Gadberry, Hubert | C 2 | Olney |
| Gaddis, Marion Lewis..... | '21 CE. | Cotulla |
| Gaines, Frank | Sp. Ag. | Proctor |
| Gainey, Walter Clarence..... | '24 Ag. | Houston |
| Galbraith, Oliver, Jr..... | '24 ME. | Pine Bluff, Ark. |
| Galbreath, John M..... | Sp. CE. | Brownwood |
| Gardner, James Eldridge..... | '23 Ar. | Comanche |
| Gardner, Marion Bernard..... | '22 TE. | Tyler |
| Garitty, Benjamin Joseph | '22 EE. | Corsicana |
| Garland, Loyd | '23 Ag. | Hope, Ark. |
| Garner, William Davis..... | C 1 | Port Lavaca |
| Garnett, Edward Wynne | '23 CE. | Denton |
| Garrett, Ellie Hugh..... | Sp. Ag. | Driftwood |
| Garrett, George Moss..... | '23 CE. | Paris |
| Garrett, Richard Lawrence..... | '24 EE. | Weimar |
| Gaston, Eldred Lenox..... | '24 ME. | Nacogdoches |
| Gaston, Edwin Willmer..... | '24 Ag. | Nacogdoches |
| Gaston, Thomas Lee..... | '24 AA. | Myra |
| Gatlin, Eugene N..... | '23 CE. | Dallas |
| Gee, Clarke C..... | '23 CE. | Itasca |
| Gee, Sidney Thomas..... | Sp. Ag. | Troup |
| Germany, Judson Pritcher..... | '23 Ag. | Fort Worth |
| Gibson, Donne Evans..... | Sp. CE. | Port Lavaca |
| Gibson, Kerr | '24 EE. | Lufkin |
| Gideon, Emmett Harrison..... | Sp. Ag. | Conawa, Okla. |
| Gieseke, John O. | '21 ChE. | Brenham |
| Giles, Dorris David..... | '22 VM. | Houston |
| Gill, E. King..... | '24 ChE. | Dallas |
| Gilleland, J. Buford..... | Sp. Ag. | Seminole, Okla. |
| Gilley, Thomas G..... | '23 EE. | Caldwell |
| Gilliland, Gilbert Lee | Sp. CE. | Dyerburg, Tenn. |
| Gilliland, Samuel Walter..... | C 1 | Decatur |
| Ginn, Victor Lovelace..... | '24 ME. | Granbury |
| Gips, Manfred Otto..... | '24 EE. | Yorktown |
| Girard, Henry Bryan..... | Sp. Ag. | Dallas |
| Girault, Edmund | '23 ChE. | Mexico City, Mexico |
| Gist, Marcus | C 1 | Odessa |
| Gladney, John Roger..... | Sp. Ag. | Talequah, Okla. |
| Glazener, Verna Ray..... | '23 AE. | Fairfield |
| Glenney, Ralph H..... | '24 ME. | San Antonio |
| Glover, Joseph H..... | Sp. Ag. | Bettie |
| Gohmert, Edward Herman..... | '24 EE. | Yorktown |
| Golden, Charlie Harry..... | '22 EE. | Fort Worth |
| Goldman, Adolph, Jr..... | C 1 | Austin |
| Gonzalez, Vicente Francisco | '23 EE. | Mexico City, Mexico |
| Goodloe, Woodford Lloyd..... | Sp. Ag. | Hereford |
| Gorman, Carl Frederick..... | '24 ME. | Winnsboro |
| Gorman, John Alexander..... | '23 Ag. | Beaumont |
| Goss, Harvey Theo..... | '22 ME. | Abilene |
| Gouger, Bryan Gratz..... | '21 EE. | San Antonio |
| Gourley, William Milton..... | Sp. AE. | Gonzales |

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| Govea, Herminio | '24 | Ag. | Torreón, Mexico |
| Graham, Calhoun McCulloch | '24 | Ag. | Bryan |
| Graham, Jose Carlos | '22 | Ag. | Forlón, Tamps, Mex. |
| Graham, William Pinkney | '22 | AE. | Bryan |
| Graves, John Arthur | '24 | Ag. | East Andover, N. H. |
| Graves, John Warren | Sp. | Ag. | Meridian |
| Gravis, Frank James | '23 | Ag. | San Diego |
| Gray, Benjamin Frank | '24 | Ag. | Slocum |
| Gray, William Fred | '24 | ME. | Beaumont |
| Green, William Lewis | '24 | ME. | Marshall |
| Greening, Kenneth Gilbert | '24 | CE. | Hope, Ark. |
| Greer, Dewitt Carlock | '23 | CE. | Pittsburg |
| Greer, Lanier | '24 | EE. | San Antonio |
| Gregory, Clyde Rivers | Sp. | EE. | Brookshire |
| Griffith, Fuller Orville | '24 | EE. | Quanah |
| Griffith, Lawrence Henry | '24 | CE. | Quanah |
| Griffith, Welborn Barton | '24 | Ag. | Quanah |
| Grissom, Samuel Benson | '24 | ME. | Granbury |
| Grizzle, Homer | '24 | ME. | Dallas |
| Grothaus, Frederick Edward | '23 | CE. | San Antonio |
| Grover, Rufus Markham | '24 | EE. | Bay City |
| Guiberson, Harry Ronald | '24 | Ar. | Seattle, Washington |
| Gulley, Luallen | Sp. | Ag. | Midyett |
| Gunn, William Thomas | '24 | CE. | Deport |
| Gunter, Elma Curtiss | '24 | CE. | San Angelo |
| Gurinsky, Wolford Lowell | '24 | EE. | Gonzales |
| Gurwitz, Jacob Alexander Marcus .. | '22 | EE. | San Antonio |
| Gustavus, Onnie C. | Sp. | Ag. | Bryan |
| Guynes, John Rice | '22 | TE. | Chatfield |
| Guyon, Fred Lynnwood | M 1 | ..... | Goliad |
| | | | |
| Hail, William Dudley | '23 | Ag. | Crockett |
| Hailey, Cyrus Hale | '23 | Ag. | Marlin |
| Hailey, William Hubert | C 2 | ..... | Paducah |
| Haines, Lee Curtis | Sp. | Ag. | Ireland |
| Hairston, Charles L. | '24 | Ag. | Bartlett |
| Hairston, Robert Roy | '24 | Ag. | Timpson |
| Halbert, Oliver Isaac | C 1 | ..... | Waco |
| Hale, Allan Franklin | Sp. | Ag. | Decatur |
| Hale, Carmon Andrué | Sp. | Ag. | Roxton |
| Hale, Fred | '22 | Ag. | Tulia |
| Hale, Grover Cleveland | Sp. | EE. | Little Rock, Ark. |
| Hale, Will Carlton | '23 | Ag. | Westover |
| Haley, Raymond Grayson | Sp. | Ag. | Royal Oak, Michigan |
| Hall, Carlos Edward | M 2 | ..... | Warren, Arizona |
| Hall, Russell Winston | '22 | ChE. | Corpus Christi |
| Hall, Travis | '21 | Ag. | Hightower |
| Hallmark, James Orlando | '24 | VM. | Riviera |
| Hamilton, Charles Horace | '23 | AA. | Bonham |
| Hamilton, Vivian Earle | '24 | EE. | San Antonio |
| Hamilton, William Brooks | '22 | ME. | Houston |
| Hamilton, Walter Fenton | '21 | ME. | Denton |
| Hammer, Valley Henry | Sp. | Ag. | Timpson |
| Hammett, Homer Cicero | '23 | EE. | Jacksonville |
| Hanberry, William Frederic | '24 | EE. | Houston |
| Hancock, William Jennings | '24 | ME. | Paris |
| Haney, Oren Buel | '23 | TE. | Waco |
| Hanley, Edward William | '22 | Ag. | Eagle Lake |
| Hanna, Frank W. | '23 | ChE. | Georgetown |
| Hannaford, William Edwin | '22 | CE. | Granbury |
| Harbison, Dewitt Albert | '24 | Ag. | Granger |

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| Harding, Arthur Gilman | '21 | EE. | Victoria |
| Hardman, Benjamin Joseph | N 1 | | Leonard |
| Hardy, Augustus Lipscomb | '24 | AA. | Luling |
| Hardy, Ernest Hugh | '24 | ME. | Abilene |
| Hardy, Sam | '24 | ChE. | Bremond |
| Harkey, Thomas Watson | Sp. Ag. | | Austin |
| Harlan, Sam | '24 | ChE. | Plainview |
| Harper, D. Curtis | N 2 | | Wichita Falls |
| Harper, Floyd | Sp. Ag. | | Cooper |
| Harpole, Earl Yale | '24 | ME. | Houston |
| Harrell, Elon | C 2 | | Grandview |
| Harrell, Willis Horace | '24 | Ag. | Sherman |
| Harrington, Harold Ernest | '24 | EE. | Dayton |
| Harrington, Marion Tom | '22 | ChE. | Plano |
| Harris, George Feeldon | M 2 | | Menard |
| Harris, Grady Woodfin | '22 | Ag. | Mobeetie |
| Harris, Hunter Burns | '24 | Ag. | Cuero |
| Harris, James | C 1 | | Marshall |
| Harris, James Buford | C 1 | | Blooming Grove |
| Harris, Robert Emmett | '23 | Ag. | Comanche |
| Harris, Robert Maxwell | '24 | EE. | Tishomingo, Okla. |
| Harris, Will D. | '24 | CE. | Quitman |
| Harrison, Albert Webb | N 1 | | Victoria |
| Harrison, Bryan Payne | '24 | Ag. | Palmer |
| Harrison, Sam Evetts | '24 | Ag. | Bryan |
| Hart, Joe Carroll | C 2 | | New Boston |
| Hartson, Rowe Leonard | '24 | Ag. | Proctor |
| Hartung, George Hermann | '22 | ChE. | Houston |
| Harvey, Beard Jobe | Sp. Ag. | | Damon |
| Haslbauer, Herman | '24 | ME. | San Antonio |
| Hatley, Adolph Earl | '21 | ME. | Laredo |
| Hayden, Guy Wilson | '24 | CE. | Conroe |
| Hayes, Harold Fuller | '23 | Ag. | Chickasha, Okla. |
| Haywood, Thomas Selman | '24 | CE. | Beaumont |
| Head, J. B. | '24 | EE. | Sherman |
| Heald, C. Metza | '24 | Ag. | Anson |
| Heard, Herman Gordan | '24 | AA. | Bowie |
| Heartfield, Richard Cornish | '23 | Ar. | Sour Lake |
| Heffner, Frederick Spencer | C 1 | | Bonham |
| Heinen, Walter | C 1 | | Comfort |
| Hellums, Andrew J. | Sp. Ag. | | Belton |
| Henderson, Bernard | M 2 | | Douglasville |
| Henry, Herman Kennedy | '24 | Ag. | Denison |
| Henry, Marion Bryan | '23 | TE. | Shelbyville |
| Henry, Rennel E. | '24 | EE. | Denison |
| Hensarling, Thomas Andrew | '22 | Ag. | Bryan |
| Herrling, Frederick Charles | '24 | Ag. | Kurten |
| Hester, Stephen Garvin | C 1 | | Thomas |
| Heye, Walter Henry | N 2 | | Hallettsville |
| Hicks, Osborn Caldwell | '24 | Ag. | Hereford |
| Higginbotham, Mack Whiteside | '24 | EE. | Alvin |
| Higginbotham, Roswell G. | Sp. Ag. | | Sherman |
| High, Will Roy | C 1 | | Blooming Grove |
| Hightower, Charles Howard | Sp. Ag. | | Mason |
| Hiler, Sexton Worl | '24 | EE. | Winkelman, Ariz. |
| Hill, Alvin Trosper | M 2 | | Marshall |
| Hill, Benjamin Robert | '24 | Ag. | McKinney |
| Hill, Guy | Sp. Ag. | | Caldwell |
| Hill, Jack Coleman | '24 | Ag. | McKinney |
| Hill, Robert Dudley | '24 | Ag. | Dawson |
| Hilton, Neal Hamilton | '23 | ME. | Houston |

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| Hines, Fred Ford | C 1 | Davilla |
| Hobbs, Edward W. | C 2 | Rice |
| Hockaday, Harold Kerr | '24 CE. | Cleburne |
| Hodge, Marion Martin | N 2 | Houston |
| Hodges, Lester B. | '22 VM. | Abilene |
| Hogan, Willis | Sp. Ag. | Percilla |
| Hohn, Walter Louis | '24 Ag. | Nordheim |
| Holder, William Henry | Sp. Ag. | Waller |
| Holecamp, Otto C. | '24 EE. | Comfort |
| Holland, Burdette DeWitt | '24 EE. | Livingston |
| Holland, George Dewey | Sp. Ag. | Bryan |
| Holland, Jerome Chesby | '24 EE. | Livingston |
| Holland, John William | N 1 | Amsterdam, N. Y. |
| Holland, William Duane | '24 Ar. | Santa Anna |
| Hollowell, Glenn Alonzo | '23 EE. | Albany |
| Holmgreen, Elmer Neilson | '22 Ag. | San Antonio |
| Holzappel, Robert Otto | N 2 | San Diego |
| Hood, James Newton | '24 ChE. | Dallas |
| Hooten, Earl Arthur | C 1 | Sulphur Springs |
| Hope, W. Byron | '23 Ag. | Leonard |
| Hoppe, Adolph Bill | '22 ME. | Marble Falls |
| Horkan, Jack Francis | '24 ME. | Beaumont |
| Horn, Henry Brown | '21 Ag. | Del Rio |
| Horn, William Christian | Sp. Ag. | Montgomery |
| Horne, Oral Lee | Sp. Ag. | Maverick |
| Houston, Frank Norman | '22 CE. | Lake Charles, La. |
| Howe, Harold Berthold | N 1 | Cleveland, Ohio |
| Howe, Jack Joseph Jr. | '24 EE. | San Antonio |
| Howell, Eugene Jody | '22 ChE. | Waco |
| Howell, John Burl | '24 Ag. | Coleman |
| Howell, Leander D. | '22 Ag. | Bexar, Ala. |
| Howell, Rutherford Hayes | '23 Ag. | Bexar, Ala. |
| Howerton, Roland Reginald | '24 ChE. | Pilot Point |
| Howze, Albert Howell | '23 EE. | Houston |
| Hubby, Turner Erath, Jr. | '24 ME. | Waco |
| Hudgins, Jack | C 1 | Forney |
| Hudson, Delma | '24 AA. | Mart |
| Hudson, Will H. | '24 EE. | Los Angeles, Cal. |
| Huey, Paul | C 2 | Cleburne |
| Huff, Calvin Ralph | '24 EE. | Lyford |
| Huff, Roy Prewett | '22 ChE. | Waco |
| Hughes, Emory S. | Sp. Ag. | Fort Worth |
| Hughes, Justin Mendal | Sp. Ag. | Mercedes |
| Hughes, William Hobson | '23 Ag. | Lyford |
| Hughes, William Lycurgus | '21 AE. | Brady |
| <i>A. B., Howard Payne College, 1920.</i> | | |
| Hughs, Thomas Buford | C 2 | Shiner |
| Hugon, Lee Russell | '22 EE. | Gainesville |
| Hultgren, Hilmer Carl | '24 EE. | Ingleside |
| Hunt, Asa Eugene | '22 EE. | Dallas |
| Hunt, John | Sp. EE. | Winslow |
| Hunt, Mathie Caldwell | Sp. Ag. | Dallas |
| Hunt, Robert L. | C 1 | Omaha |
| Hurley, Charles Webster | '22 ChE. | Houston |
| Hurley, Timothy Donald | '24 Ag. | Chicago, Ill. |
| Hutchison, Wallace Russell | '24 Ag. | Tulia |
| Hyland, George Gilbert | '24 ChE. | College Station |
| Ingram, William H. | '23 EE. | Terrell |
| Irwin, Arthur James | '24 CE. | Galveston |
| Irwin, Kenneth William | '24 ME. | Teague |

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| Jackson, Everett George | '23 | Ar. | Mexia |
| Jaggi, Frederick Putnam, Jr. | '24 | Ag. | San Antonio |
| James, Robert | Sp. | Ag. | Ballinger |
| James, Roy Day | Sp. | Ag. | Granbury |
| Japour, Maxine Joseph | '21 | ChE. | Port Arthur |
| Jarratt, Sam Milton | '24 | Ag. | Gouldbusk |
| Jarrell, William Fountain | H 2 | | Denton |
| Jarvis, Raymond | '24 | Ag. | Lieb |
| Jary, Roland Edward | '24 | Ag. | Fort Worth |
| Jeffery, Isaac Curian | N 2 | | Mt. Olive, Ark. |
| Jenkins, Alphaeus Greer | '24 | AA. | Caldwell |
| Jenkins, B. L. | '22 | Ag. | Clarendon |
| Jennings, Cyrus | Sp. | Ag. | Dallas |
| Jernigan, Jack, Aubrey | '24 | CE. | Abilene |
| Jinks, Leon Carlton | '23 | Ag. | Bay City |
| John, Englebert George | '21 | ChE. | Taylor |
| Johns, Bert | '24 | EE. | Round Rock |
| Johnson, Albert Sidney | '22 | ChE. | Dallas |
| Johnson, Harold Jefferson | '24 | ChE. | Fort Worth |
| Johnson, Joe B. | N 1 | | Whitewright |
| Johnson, Lawrence Leroy | C 2 | | Pasadena |
| Johnson, Thomas Jesse | '24 | Ar. | Lufkin |
| Johnson, William Dunlap | '24 | CE. | Beaumont |
| Johnson, William Henry | Sp. | Ag. | Bryan |
| Johnson, Walter Theodore | '21 | VM. | Galveston |
| Jolliff, Lindsey Gafford | '23 | ME. | Dallas |
| Jones, Beecher Calvin | Sp. | AE. | Waco |
| Jones, Barton Douglas | Sp. | Ag. | Comanche |
| Jones, John Bryan | '24 | AA. | Wichita Falls |
| Jones, John Harrell | '22 | Ag. | Windthorst |
| Jones, Newton W. | '23 | Ag. | Windthorst |
| Jones, Paul Bringman | C 2 | | Gainesville |
| Jones, Thomas Lewis | '23 | EE. | Forney |
| Jones, Tillet Nobles | '24 | EE. | Conroe |
| Jordan, Joseph Julian | '21 | Ag. | Beckville |
| Jordan, Vernon Elton | N 2 | | Brady |
| Jordan, Willie Rogers | '22 | Ag. | Lufkin |
| Josserand, Pierre L. | Sp. | M. E. | Galveston |
| Justiss, William Edward | Sp. | Ag. | Howland |
| Kalb, George Montgomery | '24 | ME. | San Antonio |
| Kean, Edward Everett | N 1 | | Cisco |
| Keathley, Troy Amos | Sp. | Ag. | Conway, Ark. |
| Keeton, Thaddeus Elton | '23 | EE. | Devine |
| Kehrer, Arthur Jack | Sp. | Ag. | San Antonio |
| Keith, Arthur Clinton | '22 | ChE. | Fort Worth |
| Keith, Joel D. | Sp. | CE. | Pindall, Ark. |
| Kelley, Edwin Dewey | Sp. | Ag. | Conroe |
| Kellner, Robert Emil | '24 | Ag. | Fernwood, Miss. |
| Kelly, Benjamin Franklin | Sp. | Ag. | San Antonio |
| Kempen, George Justus | '21 | CE. | Seguin |
| Kendrick, Leighton Lorain | '24 | Ag. | Moody |
| Kennedy, Lloyd Robert | '24 | AA. | Fort Worth |
| Kennedy, Met | '24 | Ar. | Tyler |
| Kerr, Eugene James | '22 | ME. | Havana, Cuba |
| Kerr, Horace Scott | '22 | CE. | Amarillo |
| Kerr, James Fielder | '23 | CE. | Thurbur |
| Kerr, Paul M. | Sp. | Ag. | Detroit |
| Ketterson, John Boyd | '24 | ChE. | Houston |
| Key, Davis Leonidas | '23 | Ag. | Floresville |
| Key, King B. | '23 | CE. | McKinney |

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| Keys, Clyde | '23 | EE. | Mexia |
| Kimbrough, William Morton | '23 | EE. | Weatherford |
| Kinard, John Meek | | Sp. Ag. | Summerfield, La. |
| King, John Vernon | | Sp. Ag. | Lovell, Wyoming |
| King, Robert | '21 | EE. | Gatesville |
| King, William Clark | '21 | Ag. | San Antonio |
| Kirkland, Kenneth Lester | '21 | Ag. | Cleburne |
| Kirkpatrick, Louis Pinkney | '24 | EE. | Reagan |
| Kirkpatrick, Thagard Keith | '24 | EE. | Reagan |
| Kitchens, Paul K. | '24 | ME. | Mineola |
| Knapp, John Andrew | '22 | TE. | Calvert |
| Knapp, Walter Lee | '22 | Ag. | Calvert |
| Knickerbocker, Arthur Balfour | '22 | CE. | Marlin |
| Knight, Cato M. | | Sp. Ag. | Miller Grove |
| Knox, Benjamin Tyson | '24 | ChE. | Austin |
| Knox, Edward Warren | '24 | EE. | San Antonio |
| Knupp, John William | '23 | EE. | Amarillo |
| Koehler, Egon | '22 | ME. | La Grange |
| Koenig, Louis Adolph | | Sp. ChE. | Bryan |
| <i>B. A., University of Texas, 1917.</i> | | | |
| Kolp, Richard | | N 1 | Fort Worth |
| Koonce, Silas Allison | '23 | ChE. | Timpson |
| Kraft, Frederick M. | '24 | EE. | Dalhart |
| Krizan, Frank Lowell | '24 | ChE. | West |
| Krueger, Albert Theodore | '24 | EE. | San Antonio |
| Krueger, Gustav Robert | '24 | EE. | San Antonio |
| Kubala, Frank | '24 | EE. | Granger |
| Kuehr, Edwin Erich | '24 | EE. | Taylor |
| Kunkel, Carl Mitchell | '24 | ME. | San Antonio |
| Kurtz, Lawrence A. | '21 | EE. | Seadrift |
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| Lackey, William Jefferson | '24 | EE. | San Antonio |
| Ladd, Gussie Lee | | Sp. Ag. | Blossom |
| Lamb, David Ewing | | C 1 | Detroit |
| Lamkin, James Boyd | '23 | ME. | Huntsville |
| Lancaster, Alexander Pope | '22 | EE. | Marshall |
| Lancaster, Jesse Cornelius | '23 | Ar. | Marshall |
| Land, Thomas Calhoun | '24 | CE. | Beaumont |
| Land, Victor Harold | | C 2 | Temple |
| Landram, Addison Bering | '22 | Ag. | Houston |
| Landry, Lennils Lee | | Sp. Ag. | Sulphur, La. |
| Landry, Ras | '22 | ME. | Beaumont |
| Lang, John Joseph, Jr. | '22 | EE. | Dallas |
| Langston, John Harold | '21 | Ag. | Crockett |
| Lasseter, William Ernest | '22 | Ag. | Henderson |
| Latham, William Enoch | '24 | CE. | Sulphur Springs |
| Latimer, Fulton | | Sp. Ag. | Clarksville |
| Lawhon, Leo | | H 1 | Boerne |
| Lawson, Glenn Edward | '22 | Ag. | Brownsville |
| Lawson, William Jennings | '24 | ChE. | Austin |
| Lazenby, Otto Robert | '24 | Ag. | Waco |
| Ledbetter, Allan | | Sp. Ag. | Brady |
| Lee, Ira D. Sankey | | Sp. Ag. | Houston |
| Lee, Ruel O. | | Sp. Ag. | Waskom |
| Lee, Samuel Dwight | '23 | EE. | Elizabeth, La. |
| Legg, Aubrey Stewart | '21 | EE. | McGregor |
| Leiper, Sam Edward | '23 | Ag. | Weatherford |
| LeLaurin, Victor Gheral | '24 | ME. | San Antonio |
| Leonard, Henry Hotchkiss | '24 | Ag. | Dallas |
| LeSturgeon, Edward Garrison | '23 | ChE. | San Antonio |
| Leuty, Ben David | '24 | CE. | Krum |

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| Leverett, Frank Marshall | '21 | ME. | Overton |
| Leverett, Leyburn A. | '22 | ChE. | Overton |
| Lewis, Corniel Caesar | Sp. | Ag. | Jonesboro, La. |
| Lewis, Frank Morton, Jr. | '24 | ME. | San Antonio |
| Lewis, Grover C. | Sp. | EE. | Call |
| Lewis, George McKoy | '24 | AA. | Fort Worth |
| Lewis, J. E. | Sp. | Ag. | College Station |
| Lewis, Tom Barrett | '21 | Ag. | Fort Worth |
| Lightfoot, John Arnold | Sp. | CE. | McMan, Okla. |
| Liles, Homer McFarlin | '23 | AA. | Nacogdoches |
| Lindeman, Rudolph August | '24 | Ar. | San Angelo |
| Lindsey, Glen Aven | '23 | Ag. | Davilla |
| Linke, Robert Jr. | C 1 | | Beeville |
| Little, Byron James | '24 | ME. | Belton |
| Littlejohn, Lacy Welborn | '24 | Ag. | Scurry |
| Livingston, Charles Wesley | '24 | EE. | Alpine |
| Livingston, Elmo Clarence | '23 | ChE. | Coleman |
| Livingston, George Dahmer | '21 | Ag. | Marshall |
| Long, Benjamin Mosley | '24 | EE. | Marshall |
| Long, Joseph Thurman | '23 | AA. | Houston |
| Long, Pierre Douglas | '24 | EE. | San Benito |
| Longino, Marvin George | '24 | Ag. | Taft |
| Longley, James Farr | '24 | EE. | Westover |
| Lord, George Joseph | '23 | Ag. | Cheapside |
| Lott, Otto Christian | '22 | ChE. | Galveston |
| Louthan, Gilbert Wallace | '24 | Ag. | Hale Center |
| Love, Ben S. | '23 | CE. | Franklin |
| Love, Walter Meigs | '22 | Ag. | Milford |
| Loving, Oliver, Jr. | '21 | CE. | Jermyn |
| Luckett, Chester Alfred | '22 | TE. | Waco |
| Luckey, Dorrell Emmett | N 1 | | Rockdale |
| Luder, Eugene Baldwin, Jr. | '24 | EE. | San Antonio |
| Luker, Cyril | '21 | Ag. | Proctor |
| Lusher, Jack Oglesby | '23 | Ag. | Fort Worth |
| Lyle, Edwin Carrington | N 2 | | Leggett |
| Lynch, Jack | '24 | Ag. | Como |
| Lynch, William Wright | '22 | EE. | Thurber |
| Lyons, Richard Alexander | Sp. | Ar. | Bryan |
| McAllister, Thomas Ulysses | '23 | ME. | Fort Worth |
| McArdle, John Charles | '24 | EE. | San Antonio |
| McCarter, Thomas Alexander | '24 | AA. | Galveston |
| McCarty, T. J. | '24 | CE. | Cisco |
| McCay, Clive Maine | Sp. | ME. | Winamac, Ind. |
| <i>B. A., University of Illinois, 1920.</i> | | | |
| McClelland, William Henry | '23 | AA. | Gilmer |
| McClure, Francis Aaron | Sp. | Ag. | San Antonio |
| McConnell, Edward | Sp. | Ag. | Crockett |
| McConnell, Mack | '23 | Ag. | Crockett |
| McCullough, Clyde Carlyle | '23 | CE. | Hochheim |
| McCullough, John Pinkney | '24 | Ag. | Bryan |
| McDaniel, Charles Hansford, Jr. | '23 | ME. | Abilene |
| McDonald, Herman Ricks | '24 | ME. | Buna |
| McDonald, Julius Hassler | '23 | Ag. | College Station |
| McElhannon, Wallace Dortch | '24 | Ag. | Belton |
| McElroy, Hazel Milton | '23 | Ag. | Belton |
| McFaddin, Edgar Clayton | '24 | TE. | Pine Bluff, Ark. |
| McFarland, George Orval, Jr. | Sp. | Ar. | Houston |
| McFarland, John Calvin | '23 | Ar. | Boerne |
| McGaffey, John W. | C 1 | | Hutchins |
| McGee, Frank S. | '24 | Ag. | Marshall |

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| McGee, Harry Webster | '21 | Ag. | Marshall |
| McGee, Ross Elwood | '23 | Ar. | Dallas |
| McGee, Roger Valentine | '23 | AE. | Bryan |
| McGlasson, Ernest W. | C 2 | | Roxton |
| McKeen, Everett Edwin | '21 | CE. | Quinlan |
| McKinsey, Logan R. | '23 | ME. | Weatherford |
| McKnight, Byron McPherson | '23 | CE. | Bryan |
| McKnight, T. Williams | '23 | CE. | Hallettsville |
| McKoy, Emmett Clifford | '23 | CE. | Rockwall |
| McLaury, William Rowland | '24 | EE. | Snyder, Okla. |
| McLemore, Felix Everett | | Sp. Ag. | Ennis |
| McMillan, William Garrett | '21 | Ar. | Calvert |
| McMullen, Vester Lee | '24 | EE. | Dubach, La. |
| McNair, Cullen Leslie | '23 | Ag. | Waxahachie |
| McNaughton, Alexander H. | '24 | ChE. | Palestine |
| McNaughton, Eugene Eran | '24 | EE. | Lawton, Okla. |
| McNelly, Charles Bowman | '22 | CE. | Uvalde |
| McPheeters, William Henry | '21 | Ag. | College Station |
| <i>B. S., Oklahoma A. and M. College 1909:</i> | | | |
| McReynolds, Joe Mow | '22 | ME. | Mineola |
| McRimmon, Myrle | '22 | CE. | Troup |
| McSwain, Ross Francis | '24 | Ag. | Wellborn |
| McWhorter, C. M., Jr. | '24 | Ag. | Douglassville |
| McWhorter, Lawrence Stancel | '24 | CE. | Palestine |
| Mackensen, Ernest Herman | '23 | Ag. | Houston |
| Magill, Walter Mason | C 2 | | San Antonio |
| Magnuson, Nels Conrad | '24 | CE. | Lyford |
| Magruder, Alexander Dalton | '24 | ChE. | San Antonio |
| Mahan, Alfred | | Sp. AE. | Walnut Ridge, Ark. |
| Mahan, Harry | C 2 | | Gainesville |
| Mahan, Jack Francis | '21 | Ag. | Gainesville |
| Malcolm, Harold Otis | '24 | EE. | Oklahoma City, Okla. |
| Mallow, Ramon | '23 | Ag. | McKinney |
| Malone, Morris Levelle | '22 | CE. | Ballinger |
| Manning, Paul | '24 | Ag. | Leonard |
| Marburger, Leon Ferdinand | N 2 | | Galveston |
| March, John Preston | '22 | ME. | El Paso |
| Maresh, Henry Joe | '24 | EE. | Caldwell |
| Marrs, George Ralston | '23 | ME. | Galveston |
| Marsh, Gay Jacques | '23 | EE. | Livingston |
| Marsh, William Ellisby | '23 | ChE. | Beeville |
| Marshall, Dillard Oneal | '24 | Ar. | Weatherford |
| Marshall, Herbert Glenn | '24 | EE. | Fort Worth |
| Martin, Frank Paul | | Sp. Ag. | Jacksonville, Ark. |
| Martin, George Edward | | Sp. Ag. | College Station |
| Martin, George Walter | '21 | Ag. | Dallas |
| Martin, Jack Carmichael | C 1 | | Marshall |
| Martin, John Lafayette, Jr. | '24 | Ag. | Austin |
| Martin, John Monroe | N 1 | | Morgan |
| Martin, Joseph Terrell | '22 | Ag. | Justin |
| Martin, James Woodward | '22 | ChE. | San Antonio |
| Maruchau, Albert Sereno | '24 | Ag. | San Antonio |
| Mast, Dick Cason | '23 | Arch. | Nacogdoches |
| Mast, Hollis Tucker | '24 | CE. | Nacogdoches |
| Masuda, Barook Joseph | '22 | Ag. | Cairo, Egypt |
| <i>A. B., Heidelberg University, 1920.</i> | | | |
| Matchett, Robert Kyle | '24 | Ag. | Bay City |
| Matney, Edwin Arthur | '21 | CE. | Fort Worth |
| Matthes, Cecil Lawton | '22 | EE. | Laredo |
| Matthes, Louis Herbert | '21 | EE. | Laredo |
| Matthews, Harvie Rogers | '21 | Ag. | Chapel Hill |

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| Matthews, N. S., Jr. | '24 | ChE. | Kountze |
| Matthews, Verner T. | Sp. Ag. | Eagle Lake | |
| Maufrais, Henry Louis | '24 | TE. | Austin |
| Maxson, Thomas Emerson | '22 | CE. | Fort Worth |
| Maxwell, Richard Henry | '21 | Ag. | Austin |
| Mayben, Roy Elwin | C 1 | Lometa | |
| Mayer, Joe | C 1 | San Angelo | |
| Mayfield, John Chester | '23 | AA. | Hurtsville |
| Mayfield, Lee | '24 | CE. | Hughes Springs |
| Mayo, John Wayland | '22 | ME. | Dallas |
| Meador, Matthew Lyle | N 2 | Lena, Miss. | |
| Medberry, Clinton Amos | '24 | ChE. | Riverside, R. I. |
| Megarity, Cebbron H. | '24 | TE. | Waco |
| Meitzen, Robert Jewel | '23 | Ag. | San Antonio |
| Mengel, Sherod Lawrence | '24 | Ag. | El Paso |
| Menger, Eugene Charles | '24 | Ag. | San Antonio |
| Menger, Erich Rudolf | Sp. ME. | San Antonio | |
| Menke, Walter Morris | '23 | Ag. | Hempstead |
| Menzies, William | '21 | Ag. | Menard |
| Merchant, Dorris Henry | '23 | ChE. | Giddings |
| Merchant, Myron Willard | '21 | EE. | Giddings |
| Meredith, Joseph Huntley | '23 | ChE. | Waxahachie |
| Meriwether, Henry Ross, Jr. | '24 | CE. | Marshall |
| Meyer, Harry Morton | '24 | Ag. | Flatonia |
| Meyer, L. J. | '24 | Ag. | Ellinger |
| Meyer, Simon | '21 | ChE. | Tyler |
| Meyer, William Estill | '24 | Ag. | Giddings |
| Meyers, Fred Pierce | Sp. CE. | Cameron | |
| Miers, Wesley Scott | '24 | EE. | Hearne |
| Milazzo, Lee C. | '24 | CE. | Texarkana, Ark. |
| Miles, John Henry | '24 | EE. | Marlin |
| Miles, William John | '22 | CE. | Mineral Wells |
| Milhollin, Robert Mabry | '23 | Ag. | Lipan |
| Miller, Elvin Jay | Sp. Ag. | Crystal City | |
| Miller, Garland Burleigh, Jr. | '21 | EE. | Bastrop |
| Miller, Jesse Clinton | '22 | Ag. | Elgin |
| Miller, John Keesey | '24 | EE. | Fort Davis |
| Miller, Love | Sp. Ag. | Rotan | |
| Miller, Malloy Hamilton | '23 | CE. | Waco |
| Miller, Thomas Louie | '24 | AA. | Coleman |
| Miller, Will James | C 2 | Smithville | |
| Milligan, Robert Joel | '24 | CE. | McKinney |
| Milmo, Patrick | '24 | Ag. | San Antonio |
| Milner, Drinkard Blacknall | Sp. Ar. | College Station | |
| <i>B. S., A. and M. College of Texas, 1917.</i> | | | |
| Milroy, William Russell | Sp. Ag. | Navasota | |
| Milton, Jasper | Sp. Ag. | Groesbeck | |
| Mims, Gordon Herbert | '24 | ME. | Austin |
| Mims, Morrill Powell | '22 | Ag. | Cleburne |
| Mingus, Odis Simpson | '23 | ChE. | Hico |
| Mitchell, Alfred Fromme | '24 | Ag. | Lolita |
| Mitchell, Hugh Chester | '23 | Ag. | Lolita |
| Mitchell, Julius Donaldson | '24 | ChE. | Dallas |
| Mitchell, Jimmie Holloway | C 1 | Grapeland | |
| Mitchell, Wilbur Clifford | '22 | ChE. | College Station |
| Mitchell, William Thomas | N 1 | Lancaster | |
| Mixon, Charles Fenner | Sp. ME. | Charlotte | |
| Mizell, John Love | '21 | Ag. | Dallas |
| Mockford, James Phillips | '21 | VM. | Greenville |
| Mogford, Alfred Christian | '23 | Ag. | Streeter |
| Moguel, Fausto Roberto | '24 | Ag. | Oaxaca, Mexico |

| | | | |
|-------------------------------|--------------|----------------|------------------|
| Monagin, J. A. | '24 | Ag. | Uvalde |
| Monk, James William | '23 | AE. | Center |
| Montford, William | Sp. Ag. | Bridgeport | |
| Montfort, Peter Thorpe | '21 | Ag. | Chatfield |
| Moore, Aubrey Lee | '23 | TE. | Hubbard |
| Moore, Carl William | '24 | CE. | Cisco |
| Moore, Emmett Herman | '23 | ChE. | Fort Worth |
| Moore, Gaither | C 1 | Enloe | |
| Moore, Johnnie Criswell | '22 | ChE. | Matador |
| Moore, John H. | Sp. Ag. | Alvarado | |
| Moore, Perry Hollis | N 1 | Kingsville | |
| Moore, Richard Marion | '24 | TE. | McGregor |
| Mooring, Ward Taliaferro | '24 | AA. | Bryan |
| Moreland, Robert Lee | Sp. Ar. | Galveston | |
| Morgan, Edward Doughty | '24 | EE. | Uvalde |
| Morgan, Ellis Hamilton | '23 | CE. | Houston |
| Morgan, Emmett Kent | '24 | EE. | Kirbyville |
| Morgan, John Edward | '24 | EE. | LaGrange |
| Morgan, Roy Fuller | '24 | Ag. | Honey Grove |
| Morgan, Robert Lee, Jr. | '23 | ChE. | Leesville, La. |
| Morgan, William Ray | C 2 | Emory | |
| Morris, Asbury Bratton | '24 | Ag. | Cedar Hill |
| Morris, George Merle | '24 | Ag. | Winnsboro |
| Morris, Harry Forrest | '24 | Ag. | Forreston |
| Morris, Theodore Warren | '23 | Ag. | Brenham |
| Morrow, William D. | '23 | EE. | Reids, La. |
| Mortensen, Ernest | '21 | Ag. | Chocolate Bayou |
| Mosley, John Edward | Sp. Ag. | North Zulch | |
| Mosley, Wilburn Wilson | '24 | ME. | Temple |
| Mosteller, Walter A. | '23 | EE. | Pilot Point |
| Mottley, James Monroe | '24 | CE. | Dallas |
| Mowery, Ray Clinton | '21 | Ag. | Almeda |
| Mowlam, William Vivian | '23 | EE. | Corsicana |
| Mullane, William Adrian | '21 | CE. | Houston |
| Muller, Albert Burke | '24 | EE. | Brackettville |
| Muller, Jerome August | '24 | EE. | Livingston |
| Mullican, J. T. Ivor | '24 | CE. | Cooper |
| Mulvey, William Bernard | '22 | CE. | Houston |
| Muncey, James Arthur | '24 | ME. | Corpus Christi |
| Munn, Carl G. | N 1 | Sterling City | |
| Muntzer, Fred W. | '24 | EE. | San Antonio |
| Murchison, Lewis Nance | '24 | EE. | Grapeland |
| Murphree, David Douglas | '21 | EE. | Thomaston |
| Murphy, Edward J. | Sp. Ag. | Waco | |
| Murphy, Herbert Adrian | '24 | EE. | Mexia |
| Murphy, Jack Knox | '24 | EE. | Belton |
| Murrah, William Erwin | Sp. AA. | Plano | |
| Myers, Albert W. | Sp. CE. | Hilleman, Ark. | |
| Myers, Carl Gilbert | '23 | ME. | Itasca |
| Myers, James Vernon | '24 | ME. | Booth |
| Myers, Thomas Denzil | '23 | EE. | Richmond |
| Nabours, Charlie | '23 | ME. | Cameron |
| Naschke, Bertram Brison | '22 | ME. | Galveston |
| Neal, Chesley Wade | '24 | ME. | Chickasha, Okla. |
| Neal, George Truett | '23 | CE. | Fort Worth |
| Neeley, Marion J. | '22 | TE. | Cotulla |
| Neely, Ray Griffith | '24 | Ag. | Barstow |
| Neitsch, Fred Ernest | '23 | EE. | Giddings |
| Nelson, Floy Downs | '24 | ME. | Troy |
| Nelson, Greer B. | '24 | Ag. | Greenville |
| Nelson, John Calhoun | Sp. Ag. | Mangum, Okla. | |

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| Newell, Philips Loveridge | '24 | EE. | Uvalde |
| Newhouse, Earl Alvin | Sp. | Ag. | Canton, Ohio |
| Newman, Albert Richard | Sp. | Ag. | Hondo |
| Newman, Samuel Arthur | '24 | EE. | Texas City |
| Newnam, Lee Petrich | '24 | Ar. | San Antonio |
| Newport, Fred Carl | M 2 | | Tomahawk, Ark. |
| Neynaber, A. Clarence | '21 | ME. | Galveston |
| Nicholson, William Stuart | '24 | ME. | Houston |
| Niebuhr, William Arthur | '22 | EE. | Brenham |
| Nimitz, Ernest Holland | '23 | Ag. | San Angelo |
| Nixon, Philip | C 1 | | Hondo |
| Nixon, Sam A. | '24 | CE. | Calvert |
| Nolte, Howell | Sp. | EE. | San Angelo |
| Norris, Fred Boyd | '24 | Ag. | Hubbard |
| Norris, William Barnett | Sp. | Ag. | Caviness |
| Northcutt, William Davis | '21 | Ag. | Longview |
| Noster, Clarence Wilfred | '23 | ME. | San Antonio |
| Notestine, Edmund | '22 | Ag. | Big Spring |
| O'Callaghan, John | '24 | ME. | Dallas |
| Ogle, Sanford Edmond | Sp. | CE. | Dallas |
| O'Kelly, Hammond Blasdell | '24 | Ag. | Ballinger |
| Old, William Donald | '24 | EE. | San Antonio |
| Oliphant, David Hayden | '24 | CE. | Sherman |
| Oliphant, Joseph B. | '22 | AE. | Katy |
| Oliveira, Raphael d' Auila | Sp. | Ag. | Rio de Janerio, Brazil |
| Oliver, Leon | '24 | AA. | Lampasas |
| Oliver, William Cloud | '24 | Ag. | Junction |
| Olsen, Carl Edwin | '23 | ME. | Clifton |
| Olson, Arden Mansfield | '23 | EE. | Clifton |
| Oltorf, James Battle | '24 | Ag. | Marlin |
| O'Meara, John Jennings | C 1 | | Fort Worth |
| O'Neal, James Conn | '24 | EE. | Port Arthur |
| Opryshek, Karl | '22 | ChE. | New Braunfels |
| O'Quinn, Gorman | '23 | EE. | Lufkin |
| Orme, William Phillip | N 2 | | Frost |
| Orr, Albert Stanford | '24 | ChE. | Waco |
| Orr, Joseph Anderson | '22 | CE. | Blytheville, Ark. |
| Orth, Robert F. | '24 | ME. | San Antonio |
| Osborn, John Baylor | '24 | EE. | Bastrop |
| Osborne, George William | '24 | CE. | McAllen |
| Owen, Barney | Sp. | Ag. | Dodd City |
| Owens, George Loving | '24 | Ag. | Weatherford |
| Owens, Roy Morris | '24 | Ar. | Bonham |
| Paige, Eugene Carroll | '23 | ME. | Dallas |
| Palmer, Elmer Sewell | '24 | EE. | San Antonio |
| Palmer, Frank S. | '23 | VM. | Texas City |
| Palmer, Kenneth Sterling | '24 | EE. | San Antonio |
| Parish, Thomas Lee | '22 | ME. | Beaumont |
| Park, Forest Lee | '21 | CE. | Dallas |
| Park, Phocion Sheeks | '23 | CE. | Bryan |
| Parke, Albert Lafayette | '23 | EE. | Dickinson |
| Parker, John Routh | '24 | CE. | Brenham |
| Parker, Wallis Prescott | '22 | EE. | Baird |
| Parker, William Tecumseh Sherman | Sp. | Ag. | Fort Stockton |
| Parkhill, Gordon Wight | '24 | CE. | Longview |
| Parkinson, J. Robert Fulton | Sp. | ChE. | Daytona, Fla. |
| <i>A. B., Yale University, 1919.</i> | | | |
| Parr, George Berham | C 1 | | Benavides |
| Parr, James Knox | '24 | Ag. | Hillsboro |

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| Parsons, Joseph Martin | '24 ME. | Greenville |
| Paterson, Jack | '24 Ag. | Austin |
| Patterson, Henry Stephens | Sp. Ag. | Alcreek, Colo. |
| Patterson, R. T. | H 1 | Lone Oak |
| Patterson, Daniel F. | Sp. Ag. | Ireland |
| Patillo, Robert E. L. | '22 Ag. | Greenville |
| Patton, Joseph Alfred | '23 Ag. | Goss, La. |
| Patton, James McCurdy | '24 Ag. | Lockhart |
| Patton, John Wesley | '21 VM. | College Station, |
| Patton, William Max | '24 EE. | Greenville |
| Patton, William Palmer | '23 Ag. | Goss, La. |
| Payne, William Allsbrook | '22 ChE. | Gainesville |
| Peacock, Leonard Eshar | '23 EE. | Runge |
| Pearson, Elma Price | '24 Ag. | Denton |
| Peavy, Daniel Cornelius | '24 ME. | Cuero |
| Pendleton, Eldridge Honaker | '23 Ag. | Farmersville |
| Pennington, Jesse Raymond | '24 TE. | Granger |
| Percy, Albert William, Jr. | '21 Ag. | Waco |
| Perdue, Raymond Leo | '24 ME. | Reagan |
| Perkins, Leonard S. | Sp. Ag. | Calvert |
| Peter, Adolph August | '21 EE. | Giddings |
| Pfaff, Albert G. | '24 EE. | Gainesville |
| Pfaff, John Steinley | '24 ME. | Alvin |
| Pfau, Ralph Leslie | '24 CE. | Victoria |
| Pfluger, Walter Lee | '24 Ag. | Eden |
| Phillips, Charles Cecil | '23 EE. | Rockdale |
| Phillips, Oscar Kelly, Jr. | '24 EE. | Rockdale |
| Phillips, Ross | '23 CE. | Chickasha, Okla. |
| Phillips, Vaughan Hill | '21 ChE. | Terrell |
| Pierce, John Allen | '21 EE. | Tyler |
| Pierce, Lewis Alva | M 2 | Marshall |
| Pinson, Harry Thomas | '22 Ag. | Proctor |
| Pinson, Samuel Augustus, Jr. | '24 CE. | Forney |
| Pitts, Howard DeHaven | '23 Ar. | Luling |
| Plunkett, Lewin, Jr. | '24 Ag. | Dallas |
| Pluss, Herman | N 1 | Galveston |
| Poage, Conger | '24 Ag. | Waco |
| Porter, Charles Ray | Sp. Ag. | Gainesville |
| Porter, Henry Hope | '24 Ag. | Maypearl |
| Porter, John Buren | '22 ME. | Calvert |
| Porter, James Walter | '22 CE. | Terrell |
| Potts, Charles Bruce | '24 EE. | Batesville |
| Potts, George Scott | C 2 | Batesville. |
| Potts, Thomas Paine | '21 Ag. | Valley Mills |
| Powledge, John Russell | '24 ME. | Hico |
| Prasatik, August | '24 EE. | Caldwell |
| Pratt, Jess Richard | '24 EE. | Ingram |
| Presnal, Earl | Sp. Ag. | Bryan |
| Prewitt, James Davis | '24 Ag. | Pecos |
| Prewitt, James A. | Sp. Ag. | Round Rock |
| Price, Edward O. | Sp. Ag. | Hermitage, Ark. |
| Price, Robert Eben | '22 ME. | Kerens |
| Price, R. R. | '22 Ag. | Clarksville |
| Price, Sidney Alexander | '24 Ag. | Gainesville |
| Prickett, Paul Smith | '22 ChE. | Fort Worth |
| Priesmeyer, Herbert John | '24 TE. | El Campo |
| Proehl, Oscar Arthur | '23 Ag. | Houston |
| Pulliam, William Emray | Sp. Ag. | Yoakum |
| Pustejovsky, Raymond George | '23 Ar. | Moulton |
| Pustejovsky, Vladik Jerry | '21 EE. | Moulton |
| Pye, Earle Watson | N 1 | Beaumont |

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| Quillin, William Sims | Sp. Ag. | Norman, Okla. |
| Radi, Salim Abdullah | '24 Ag. | Baghdad, Mesopotamia |
| Ragsdale, Theron W. | '21 CE. | Jacksonville |
| Ramsey, Robert Howard | '21 Ag. | Goliad |
| Randall, Forest Ulysses | '24 EE. | Hereford |
| Rapp, Edward Camille | '24 ME. | Houston |
| Ratliffe, Thomas Gideon | '23 Ar. | San Antonio |
| Ray, Jo | Sp. Ag. | Crowell |
| Rea, Homer Earle | '22 AA. | Rosebud |
| Reagan, Charles Anderson | '24 TE. | Farmersville |
| Reagan, Green Pryor | '24 Ag. | Beeville |
| Real, Casper | '22 Ag. | Kerrville |
| Reddick, Walter Newton | '24 CE. | Fort Worth |
| Redding, Iberia Kennon | Sp. CE. | Huntsville |
| Redditt, Thomas Guyten | '22 CE. | Center |
| Reece, Rasse | Sp. AE. | Farmersville |
| Reed, Louis Phelps | '24 CE. | Dallas |
| Reed, Lee Rotan | '21 Ag. | Sterling City |
| Reed, Nicholas Homer | C 1 | Sterling City |
| Reed, Thomas Franklin | C 1 | Clayton |
| Reedy, Morris | '24 ChE. | Fort Worth |
| Reese, Joseph Travis | Sp. TE. | Freeport |
| Reid, Joseph Jenkinson | '21 VM. | Bryan |
| Reid, Rogers Fullerton | '23 EE. | Orange |
| Reiffert, Walter, Jr. | '24 Ag. | Cuero |
| Rendall, Edward Arthur | '24 CE. | Brownsville |
| Reynaud, Oscar Field | '22 CE. | Houston |
| Reynolds, Ewell Ellison | '21 Ag. | Mount Calm |
| Reynolds, James Milton | '22 AA. | Mount Calm |
| Reynolds, Sidney Davis | '24 Ag. | Bastrop |
| Rhodes, Robert Caradine | N 1 | Weston, W. Va. |
| Richards, William Bõon | '24 CE. | Kilgore |
| Richardson, David Porter Jr. | '23 EE. | Henderson |
| Richter, Charles M. | '24 TE. | Waco |
| Riggs, Thomas Elton | '23 CE. | Gainesville |
| Rike, Robert Aldridge | '24 Ag. | Farmersville |
| Robbins, Jesse Jewell | '24 Ag. | McKinney |
| Roberts, Berry Vernon | '23 EE. | Cameron |
| Roberts, Dewey Hobson | Sp. Ag. | Ennis |
| Roberts, Herman Lorenza | '24 ME. | Corsicana |
| Roberts, Hubert Oscar | '24 ChE. | Terrell |
| Roberts, James Benjamin | '21 CE. | Crawford |
| Roberts, Lona Lorris | '24 Ag. | Amarillo |
| Roberts, Paul Henry | N 1 | Itasca |
| Robertson, Clark Truly | Sp. Ag. | East Vaughn, N. M. |
| Robinson, Brittain Bragunier | Sp. Ag. | Galveston |
| Robinson, Conrad A. | '24 Ag. | Bartlett |
| Robinson, Elbert Lionel | '21 EE. | Bryan |
| Robinson, Howard Curtis | '21 Ag. | Bartlett |
| Roddy, Perry Eugene | C 2 | Forney |
| Rodgers, Carlin Lanier | '24 Ag. | McAllen |
| Rogers, Archie Clifton | '23 EE. | Cameron |
| Rogers, Boyd Gilbert | '24 Ag. | Point |
| Rogers, Clinton Charles | '23 Ag. | Hondo |
| Rogers, Elbert Williams | '22 EE. | Sulphur Springs |
| Rogers, Floyd Rieves | Sp. Ag. | Monticello, Ark. |
| Rogers, Herman Leach | H 1 | Mart |
| Rogers, James Shearer | '24 EE. | Bartlett |
| Rogers, Robert Lee, Jr. | '24 Ag. | Fort Worth |
| Rollins, John Thomas | '21 Ag. | China |

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|------------------------------|-----|------|-----------------|
| Romberg, Conrad Julius | '24 | EE. | Hindes |
| Romberg, Louis D. | '21 | Ag. | Holland |
| Roper, William Nunn | '22 | CE. | Rosebud |
| Roper, Winston Rutledge | N 1 | | Anna |
| Rosborough, Craig | '22 | Ag. | Marshall |
| Rosborough, James Fears | Sp. | Ag. | Marshall |
| Rosborough, Richard Allen | '24 | ME. | Marshall |
| Rose, Hugh Fitzhugh | C 1 | | Del Rio |
| Rose, Joe Mortimer | C 1 | | Del Rio |
| Rosenberg, Mortimer Lewis, | '23 | ChE. | Taylor |
| Ross, Erwin Glen | C 1 | | Goodlet |
| Ross, Ones Augustus | '24 | Ag. | Dallas |
| Rothe, Clinton Herbert | '21 | Ag. | D'Hanis |
| Rounds, Will Arthur | '24 | CE. | Fort Worth |
| Routh, Charles Aldridge | '24 | Ag. | Trenton |
| Rowland, William Goeble | '23 | ME. | Humble |
| Rowland, Worcester May | Sp. | Ag. | Tuttle, Okla. |
| Rummel, Adolph Joseph | '24 | EE. | San Antonio |
| Rush, Henry David | '24 | Ag. | Marlin |
| Russell, Frank E. | Sp. | Ag. | Ladonia |
| Rutledge, Oran Melmath | C 1 | | Corpus Christi |
| | | | |
| Sabacky, Joe | Sp. | Ar. | Bryan |
| Salisbury, Winfield Wyman | '24 | EE. | Bryan |
| Sammons, J. Hansel | Sp. | ME. | Albany |
| Sample, Cyrus M. | Sp. | Ag. | Stamford |
| Sandel, John Mickle | C 1 | | Shiro |
| Sanders, Cecil Parr | '21 | Ag. | Hillsboro |
| Sanders, Horace Murdock | '22 | Ag. | Lavernia |
| Sanders, John H. R. | Sp. | Ag. | Anson |
| Sanders, Joshua Soule | '21 | Ag. | Mansfield, La. |
| Sanders, Sam Houston, Jr. | Sp. | Ag. | Franklin |
| Sanderson, Alton | Sp. | Ag. | Mount Selman |
| Santerre, Mc Leo | '24 | Ag. | Dallas |
| Saunders, Henry Merritt | '22 | EE. | Greenville |
| Saunders, John Laroy | '23 | CE. | Smithville |
| Sawyer, Clarence Mervin | Sp. | Ag. | Millican |
| Scales, Robert Henry | '23 | CE. | San Antonio |
| Schaedel, Frank Walker | '22 | EE. | Bay City |
| Schaefer, Edward Hassler | '23 | ChE. | San Antonio |
| Schaefer, Quentin Bryan | '22 | EE. | Schulenberg |
| Schiller, Frank Paul | '24 | EE. | Granger |
| Schiwetz, Edward M. | '22 | Ar. | Cuero |
| Schlather, Erich George | '22 | EE. | Cibolo |
| Schmeltzer, Caesar Frederick | '24 | EE. | San Antonio |
| Schmidt, George Frank | '24 | Ag. | Kingsbury |
| Schmidt, Herbert Edward | '22 | EE. | Galveston |
| Schroeder, Herbert | C 1 | | Industry |
| Schuenemann, Diedrich Hugo | '24 | CE. | Kenedy |
| Schultz, John Frederick | '24 | Ag. | Columbus |
| Schulze, Ferdinand | '22 | ChE. | Kerrville |
| Schuttee, Elbert Almer | C 1 | | College Station |
| Schwaner, Charles Henry | '24 | CE. | Beaumont |
| Scotfield, Robert Moore | '23 | CE. | Gainesville |
| *Scott, Samuel Urban | '21 | EE. | Dickson, Tenn. |
| Scudder, Carl Frederick | '21 | EE. | Shreveport, La. |
| Seelke, Adolph G. | '23 | CE. | Giddings |
| Severn, John Mack | '22 | Ag. | Elgin |
| Seyle, Samuel Roscoe | '22 | CE. | Houston |
| Shannon, John Heath | '24 | Ag. | Normangee |
| Sharp, Charles Brightman | '24 | EE. | Crockett |

*Died December 23, 1920,

| | | |
|--------------------------------|----------|---------------------|
| Sharp, Henry Arnette | Sp. Ag. | Detroit |
| Shaw, Harold Cook | '23 Ag. | Victoria |
| Shaw, James Bart | N 2 | Fort Worth |
| Sheffield, John Milo, Jr. | '24 AA. | Mart |
| Sheffield, John Stewart | '24 ME. | Paris |
| Shelton, Dixon Bywaters | '24 Ag. | Howland |
| Sherman, Robert Miller | '24 EE. | Waco |
| Sherrill, Charles Warren | '21 Ag. | Kerens |
| Shield, Elgran L. | '24 Ar. | Santa Anna |
| Shields, Fred Maynor | '23 Ag. | Trinity |
| Shifflett, Lacy Briant | '23 Ag. | Marble Falls |
| Short, Charles Brandon | '24 Ag. | Amarillo |
| Short, Leslie Eaves | '24 Ag. | Bandera |
| Short, Walter Thomas | '24 EE. | Silsbee |
| Silvus, Walter Emory | '22 EE. | Dallas |
| Simmons, Forrest Charles | '23 EE. | Shreveport, La. |
| Simmons, William Edwin | '22 CE. | Dayton |
| Simon, Harold Charles | Sp. IE. | Converse |
| Simon, Steve, Jr. | '24 EE. | Laredo |
| Simpson, Delbert Melvon | Sp. Ag. | Iola |
| Simpson, Frank Morton | '23 ME. | La Porte |
| Simpson, Roger Lawton | '23 Ag. | Dallas |
| Sims, J. Bryan | N 2 | Temple |
| Sims, James W. | Sp. Ag. | Mexia |
| Singleton, Neill | '22 EE. | Lufkin |
| Skains, William Thomas | '23 Ag. | Franklin |
| Smith, Albert Lester | '23 Ag. | Frisco |
| Smith, Charles C. | C 2 | Trent |
| Smith, Charles Russell | '21 ChE. | Dallas |
| Smith, Clyde Taylor | '24 CE. | Pittsburg |
| Smith, Eck | Sp. AE. | Bryan |
| Smith, Edgar Louis | N 1 | Myra |
| Smith, Frank Ennis | '21 Ag. | Bynum |
| Smith, Henry Norman | C 1 | Clarksville |
| Smith, Harry Sherman | '24 EE. | Handley |
| Smith, Iver Reed | Sp. Ag. | Hugo, Okla. |
| Smith, Jack Ramsey | '24 ME. | Malakoff |
| Smith, Jarrett Sylvester | '24 EE. | Valley Mills |
| Smith, Lee Andrew | '22 EE. | Polytechnic |
| Smith, Marlin Rocelius, Jr. | '24 CE. | Coleman |
| Smith, M. V. Farr, Jr. | '22 ME. | Belton |
| Smith, Norman Joseph | Sp. EE. | Sulphur, La. |
| Smith, Percy Hilton | '24 ME. | Dallas |
| Smith, Ralph Ezra | '24 EE. | College Station |
| Smith, Thomas Decker | Sp. Ag. | Alba |
| Smith, William Kelley | C 2 | Gatesville |
| Smith, Walter Sidney | '24 CE. | Albany |
| Smith, Zay | '24 ME. | San Antonio |
| Smotherman, Macy | C 1 | McKinney |
| Smyth, James Franklin | Sp. Ag. | Caruthersville, Mo. |
| Smyth, Leon L. | '22 Ar. | Mart |
| Snell, Casper | '24 Ag. | Lampasas |
| Snell, Maynard Goldman | '21 Ag. | Lampasas |
| Soland, Frederick Francis | N 1 | Houston |
| Spence, Stanley Lyford | '23 CE. | San Angelo |
| Spencer, Hal Porter | '24 EE. | Oenaville |
| Spessard, William Bryant | '21 Ag. | Taft |
| Spith, Andrew J. | Sp. ChE. | College Station |
| A. B., Defiance College, 1918. | | |
| Sprague, Carl Tyler | '22 Ag. | Houston |
| Spratt, Charlie Montgomery | '24 Ag. | Livingston |

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| Spreen, Herbert Frederick | '22 | EE. | Welcome |
| Stallings, Archie | '23 | VM. | Bryan |
| Stallings, Leonard | '23 | AA. | Brownwood |
| Stamps, William Thomas | '22 | EE. | Terrell |
| Standlee, Dan Graves | '24 | ME. | Handley |
| Stansfield, James Everett | '24 | Ag. | Washington, D. C. |
| Stark, James Albert | '21 | Ag. | Sealy |
| Starr, Fielding Woodward | '23 | ME. | Waco |
| Stasney, Leon William | '24 | AA. | Bryan |
| Steed, Julian B. | '24 | Ar. | Sherman |
| Steele, Dewitt Durham | '22 | Ag. | Corpus Christi |
| Steele, Junius | '22 | EE. | Marshall |
| Steele, Rezin Brinsmade | '22 | EE. | Houston |
| Steffens, Lynn David | '24 | Ag. | Smithville |
| Stephens, Gouverneur Robert | '22 | CE. | Mission |
| Stephens, Ira Alfred | '24 | CE. | San Antonio |
| Stephens, Theodore R. | '24 | Ag. | Mission |
| Sterling, Nathe Brooks | N 1 | | Rockdale |
| Sterling, Thomas Murry | C 2 | | Rockdale |
| Stetson, Geastle Wyat | Sp. Ag. | | Hightower |
| Stevens, Julian Earl | N 2 | | Premont |
| Stevens, James Kenneth | '24 | ME. | Plainview |
| Stewart James Henry | '24 | Ag. | Granger |
| Stewart, Milam Parks | '23 | Ag. | Magnolia Springs |
| Stiles, Robert Wingfield | '22 | ChE. | Raymondville |
| Stiles, Wendel Arthur | '23 | CE. | Waco |
| Stobaugh, Albert Mayes | N 2 | | Gainesville |
| Stocks, Aubrey Banks | C 1 | | Tankersley |
| Stokes, Dixon R. | Sp. CE. | | Springdale, Ark. |
| Stoll, Jacob | Sp. Ag. | | Brenham |
| Stone, Wren A. | Sp. ChE. | | College Station |
| <i>S. B., University of Chicago, 1917.</i> | | | |
| Story, Fred George | C 1 | | Enloe |
| Stovall, John Oatis | '24 | Ag. | Mount Calm |
| Strange, John Hansel | '22 | CE. | Mart |
| Strange, John Rufus | '22 | Ag. | Bryan |
| Strange, Thomas Ray | '24 | ChE. | Bryan |
| Strange, William Thomas, Jr. | '22 | Ar. | Bryan |
| Stribling, Ralph Copeland | '24 | CE. | Rockdale |
| Striegler, Richard Hobson | '23 | CE. | Fredericksburg |
| Striekert, Roy Robert | '23 | Ar. | Brenham |
| Struwe, Johnnie B. | '24 | EE. | Caldwell |
| Stubbeman, Alfred William | '24 | EE. | Cuero |
| Sturgis, Madison B. | '24 | Ag. | Hampton |
| Styles, Thomas Wright | '22 | ChE. | Brenham |
| Sullivan, Arthur L. | Sp. Ag. | | Star, Okla. |
| Sullivan, William Jennings Bryan | '22 | Ar. | Fort Worth |
| Summers, Burke Tucker | '24 | CE. | Nacogdoches |
| Summers, Cob Younger | Sp. Ag. | | Kirvin |
| Sumner, Ben Montgomery | C 2 | | Dallas |
| Sunkel, Joseph David | C 2 | | Clarksville |
| Sutton, John Allen | Sp. Ag. | | Hufsmith |
| Svetlik, Frank Henry | Sp. Ag. | | Buckholts |
| Swain, Mark S. | Sp. CE. | | Huntsville |
| Swan, Christopher Irving | Sp. CE. | | San Antonio |
| Swanner, Charlie Burnett | '24 | EE. | Denison |
| Syler, Cicero Roper | C 1 | | Winters |
| Sylvester, John Willie | Sp. Ag. | | Brady |
| Taber, Theron Simon | '24 | EE. | Abilene |
| Talbert, Emmet Hugh | Sp. Ag. | | Cabot, Ark. |
| Tankersley, Edward Jackson | '23 | CE. | San Antonio |

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| Tate, Leonard Ross | C 2 | Waxahachie |
| Tatum, Herbert Madison | '23 TE. | Dallas |
| Taylor, Alonzo Clason | '24 CE. | Fort Worth |
| Taylor, Clint L. | '22 ME. | Fort Worth |
| Taylor, Edward Wylls, Jr. | '23 ChE. | Houston |
| Taylor, Francis Grant | '24 ChE. | Waco |
| Taylor, William Harrison, Jr. | '21 CE. | Houston |
| Tenney, Rob Paul Warfield | '23 CE. | Rusk |
| Terry, Chester W. | '24 CE. | Dallas |
| Terry, James Christopher | '24 TE. | St. Louis, Mo. |
| Thomas, Charles Wright | '22 ChE. | La Grange |
| Thomas, Douglas Vass | '21 EE. | Texico, N. M. |
| Thomas, Ferman | N 2 | De Leon |
| Thomas, Ira Lee, Jr. | '24 CE. | Alexandria, La. |
| Thomas, Orange Edgar | Sp. Ag. | Soper, Okla. |
| Thomas, Roderic Bruce | '22 CE. | Dallas |
| Thomas, Ralph Rogers | '21 Ag. | Marfa |
| Thompson, Ben Claude | '24 Ag. | Brady |
| Thompson, Harry Witford | '22 TE. | Hubbard |
| Thompson, Iven Weller | '24 Ag. | San Angelo |
| Thompson, James Monroe, Jr. | '24 EE. | Palestine |
| Thompson, John William | Sp. Ag. | Devine |
| Thompson, Othman Clarence | '22 ChE. | Rockport |
| Threadgill Arthur Read | '24 Ar. | Marlin |
| Tieman, Edwin Fritz | '22 ME. | La Grange |
| Tiner, Wayne Darwin | '23 CE. | Uvalde |
| Tippett, Robert Ray | '22 Ag. | Alpine |
| Tips, Conrad Lewis | '24 EE. | Runge |
| Tirado, Tom Allen | '24 Ag. | Houston |
| Tobin, Byron Eugene | '23 ME. | Pilot Point |
| Todd, Belden Wilmer | N 1 | Houston |
| Tolson, William Arthur | '23 EE. | Sherwood |
| Tom, Pleas Coe | '24 Ag. | Runge |
| Tomlinson, Albert Lee | '23 CE. | Marlin |
| Tomkins, James Franklin | '24 CE. | Corpus Christi |
| Tongate, James M. | Sp. Ag. | Brownwood |
| Torbett, W. C. Jr. | '23 ME. | Waco |
| Torian, Albert Halbert | '24 EE. | Waco |
| Tracy, William Cloyde | Sp. Ag. | Victoria |
| Trant, Joshua Samuel | '23 EE. | Iola |
| Traylor, Dixon Lee | '24 Ag. | Cuero |
| Treadwell, Thurman Louthan | '24 Ag. | San Angelo |
| Trenckmann, Richard Ernst | '24 CE. | Bellville |
| Trice, Whaley Powell | '21 Ag. | Waco |
| Trimble, Homer | Sp. ME. | Seminole |
| Trimble, Roland Harris | '24 CE. | Farmersville |
| Trimmier, Roy Lee | M 1 | Fairy |
| Trusty, Vernon Lochiel | N 2 | Port Arthur |
| Tucker, Hyden Lvdell | '24 ChE. | Blum |
| Tucker, Joseph Claude | '23 ME. | Brenham |
| Tuerpe, Elmer Christopher | '21 Ag. | Lytle |
| Tune, Samuel Davis | Sp. Ag. | Smyrna, Tenn. |
| Turner, Dixon Leland | '24 Ag. | Dimmitt |
| Turner, Nathaniel Parker, Jr. | '24 CE. | Marshall |
| Tyson, Powell Martin | '21 Ag. | Maysfield |
| Underwood, Alfred Thompson | '21 CE. | Corsicana |
| Upshaw, Rufus E. | Sp. Ag. | Tryon, Okla. |
| Uzzell, Wasson | Sp. Ag. | Clyde |
| Van Court, Mack Lewis | '24 AA. | San Angelo |
| Vanderburg, J. Ercell | '21 ChE. | Silsbee |

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| Van Hook, Raymond | N 2 | Corsicana |
| Van Horn, Richard Martel | '24 Ar. | Dallas |
| Van Tuyl, Andrew J. | '22 CE. | Fort Worth |
| Van Tuyl, Thomas B., Jr. | '23 CE. | Fort Worth |
| Varnell, Earl Henry | '21 Ag. | Barry |
| Vaughan, Robert Givens | '22 Ag. | Hillsboro |
| Vaughan, Virgil V. | '24 CE. | Waco |
| Vaughn, William Oscar | '24 CE. | San Antonio |
| Venable, Omer Thornton | Sp. Ag. | Camden, Ark. |
| Vierling, Albert Lewis | '24 Ag. | Junction |
| Vinther, Percy Nelson | '21 EE. | Georgetown |
| Vondy, Andrew | '24 Ar. | Corsicana |
| Waggoman, Charlie Andrew | C 1 | Fort Worth |
| Wagstaff, John Perry | '21 CE. | Abilene |
| Walker, Elmo Milton | '21 CE. | Azle |
| Walker, Harold Hardy | '23 CE. | Tyler |
| Walker, Jordan Alfred | '21 CE. | Rockwall |
| Walker, James Bryant | '24 EE. | New Baden |
| Walker, James Knox | '21 CE. | Azle |
| Walker, Ray | '24 Ag. | Wolfe City |
| Walker, Raymond Edward | '23 CE. | Cooper |
| Walker, Robert Lee | Sp. Ag. | Medina |
| Walker, Waldo Harrison | Sp. Ag. | Bryan |
| Walker, William Watt | '23 EE. | Crystal City |
| Wall, Charles Layton, Jr. | '24 EE. | San Antonio |
| Wallace, Paul Gipson | '24 EE. | Omaha |
| Wallace, Thomas Emmette | '24 Ag. | Bryan |
| Waller, John Andrew | '24 CE. | Crockett |
| Wallis, James C. | Sp. Ag. | Arkadelphia, Ark. |
| Waltrip, Oliver Harold | Sp. Ag. | Fort Worth |
| Ward, Estwill Chisholm | '21 Ag. | Tishomingo, Okla. |
| Ward, James McCall | '24 TE. | Waco |
| Ward, Lawrence Labon | Sp. Ag. | Lake View |
| Ward, Robert Page | '24 EE. | Georgetown |
| Ward, Theodore Wallie | '23 CE. | Ledbetter |
| Warden, Cranford Coleman Bryan | '21 Ag. | Roxton |
| Ware, Roy | Sp. Ar. | Round Rock |
| Warndorf, Charles Richard | '21 TE. | Savannah, Ga. |
| Warren, Homer Clay | '24 Ag. | Waco |
| Warren, John David | '24 Ag. | Hewitt |
| Warren, Roy Lawrence | Sp. Ag. | Paris |
| Watson, Andrew | '23 AA. | Eagle Pass |
| Watson, John William | '24 AA. | Mart |
| Watson, Verne | '24 Ar. | Fort Worth |
| Weaver, Leo Lorraine | '23 ME. | Navasota |
| Webb, Clyde A. | '24 ME. | San Antonio |
| Webb, Charles Marcus | '24 CE. | San Antonio |
| Webb, Ernest | '24 ME. | San Antonio |
| Webb, William Graham, Jr. | '24 EE. | Albany |
| Webber, Absalom Theodore | '23 ME. | Freeport |
| Weber, Carl | '23 Ar. | Comfort |
| Webster, Daniel Horner | '22 EE. | Sa Antonio |
| Weghorst, Fritz Charlie | Sp. Ag. | Brenham |
| Weinberg, Herbert Lee | '23 ME. | Houston |
| Weinert, McDonald Donegan | '21 CE. | Seguin |
| Weir, William Calvin | '23 Ag. | Georgetown |
| Weisbrich, Rudolph August | '22 EE. | San Antonio |
| Weise, Adolph V. | '23 ME. | San Antonio |
| Welch, Arthur Spohn | '23 Ag. | Corpus Christi |
| Welch, Jim G. | Sp. Ag. | Bryan |

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| Welch, Lewis Marion | '24 | EE. | Voth |
| Wendt, Frank Thomas | '22 | Ag. | Sherman |
| West, Albert Washington Jr. | '24 | Ag. | Uvalde |
| West, Jack Dixon | '24 | CE. | Clarksville |
| Westerhoff, Adolph Gustavus | '21 | ME. | Moulton |
| Weyand, Sam H. | Sp. | Ag. | Round Top |
| Weyland, Otto Paul | '23 | ME. | Hempstead |
| Whatley, George Aldridge | '24 | EE. | Calvert |
| Wheeldon, Harry | '22 | ChE. | Big Springs |
| Wheeler, Dudley Bailey | '24 | ME. | Fort Worth |
| White, Damon | C 1 | | Sonora |
| White, Robert Frazier | '24 | CE. | Houston |
| White, Russell Grant | '24 | ME. | San Antonio |
| White, Wiley Bates | '24 | ME. | Saratoga |
| Whitehead, Benjamin F. | Sp. | Ag. | Hearne |
| Whitehouse, Ben | '24 | Ag. | Cleburne |
| Whitley, Jack | H 1 | | Granger |
| Whitman, Charles Dewey | '21 | Ag. | Waco |
| Whitsett, Silver | '24 | Ag. | Crystal City |
| Wigington, Hartford Silvester | Sp. | Ag. | Hutchins |
| Wilburn, Jim Berry | Sp. | Ag. | Ladonia |
| Wilcox, George B. | '23 | AE. | Iola |
| Wilder, Jack Herman | '24 | CE. | Franklin |
| Wilder, John Wesley | '23 | Ar. | Pleasanton |
| Wilkerson, William Wadsworth | '24 | CE. | Hearne |
| Wilkinson, Watkins Walter, Jr. | '24 | EE. | Bryan |
| Willard, Herbert Bernley | '22 | ChE. | Port Arthur |
| Willard, Thomas Bailey | N 1 | | Giddings |
| Williams, Charles Wesley | '24 | CE. | Dallas |
| Williams, James Chittim | '22 | CE. | Eagle Pass |
| Williams, Louis Harold | '22 | EE. | Henderson |
| Williams, Loyd Thomas | '23 | EE. | Elizabeth, La. |
| Williams, Robert B. | '23 | CE. | Albany |
| Williams, Urbane Marvin | Sp. | Ag. | Paris |
| Williams, William Howell, Jr. | '22 | ChE. | Houston |
| Williamson, John William | '23 | VM. | Sour Lake |
| Willig, Gerhard Emil | '24 | IE. | Temple |
| Willis, Claude Channing | '22 | Ag. | Whitewright |
| Willis, Eldon | '24 | Ag. | Midlothian |
| Willis, William Hubert | '24 | CE. | Marshall |
| Willis, Waid Scott | '22 | Ag. | Beeville |
| Wilson, Cecil Calvert | '24 | Ag. | Itasca |
| Wilson, Estill Arnold | '24 | CE. | Leonard |
| Wilson, Eldred Bennett | '23 | ME. | Glen Flora |
| Wilson, Elmer Theodore | '24 | CE. | Jacksboro |
| Wilson, Horace Earl | '23 | ChE. | Wharton |
| Wilson, John R. | '23 | EE. | Hondo |
| Wilson, Reed | N 1 | | Whitewright |
| Wilson, Richard O. | '24 | CE. | Coleman |
| Wilson, Thomas Fred | '23 | TE. | Honey Grove |
| Wilson, William Burges | '23 | EE. | Seguin |
| Winchester, Clarence Leroy | '24 | Ag. | Texarkana, Ark. |
| Winn, William Edward | '22 | ChE. | Dallas |
| Wipprecht, Carl | Sp. | Ag. | Bryan |

B. S., A. and M. College of Texas, 1918,

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|---|-----|-----|-----------------|
| Womack, Homer Elbert | '23 | Ag. | Corpus Christi |
| Wood, Casper Alfred | Sp. | AE. | College Station |
| <i>B. S., Kansas State Agricultural College, 1911; M. S., A. & M. College of Texas, 1915.</i> | | | |
| Wood, Charles Robert | '24 | EE. | Honey Grove |
| Wood, Lawrence Carroll | '24 | Ag. | McGregor |

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| Wood, Langston Herschel | '24 | Ar. | Henderson |
| Wood, Stephen Herndon | | Sp. Ag. | Burleson |
| Woodlan, Floyd Elmer | '24 | ME. | Nacogdoches |
| Woods, Joseph Elbert | '21 | EE. | Corsicana |
| Woods, William | '24 | EE. | San Benito |
| Woolsey, Robert Thomas | '24 | CE. | Bay City |
| Woolsey, Vernon Gens | '22 | Ag. | Bay City |
| Woolverton, Arthur H. | '21 | CE. | Wills Point |
| Works, Maurice Milton | '22 | CE. | Amarillo |
| Worsham, Joseph Luster | | Sp. Ag. | Bryan |
| Wright, Clarence John | '23 | CE. | Houston |
| Wright, Samuel Robert | '22 | CE. | Weatherford |
| Wupperman, Richard Otto | '23 | Ag. | Seguin |
| Wurzbach, Alvin Julius | | C 1 | Cliff |
| Wyatt, Jack Kerneal | '23 | EE. | Dallas |
| Wyche, Robert Hiram | | Sp. Ag. | Riesel |
| Wyly, James John, Jr. | '22 | EE. | Fort Worth |
| Wynn, Connie Ashley | | N 1 | Bloomington |
| Yater, John Allen | '22 | ME. | Cleburne |
| Yates, Byron Field | '24 | EE. | Alpine |
| Young, David Wilbur | '24 | AA. | San Antonio |
| Young, George Fearons | '24 | CE. | Longview |
| Young, William Kerran | '23 | AA. | Laredo |
| Younger, William Wallace | | N 2 | Sunset |
| Zachry, Henry Bartell | '22 | CE. | Houston |
| Zedler, Charles D. | '24 | EE. | Luling |
| Zesch, Kert Leo | | M 2 | Mason |
| Zesch, Roy Herbert | | M 1 | Mason |
| Zoufikar, Samir | | Sp. Ag. | Zamalek, Egypt |
| Zrubek, Milan Alois | | Sp. Ag. | Frenstat, Czecho-Slovakia |

EIGHT WEEK'S COURSE IN AUTO-MECHANICS

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|--------------------------|-------------------|
| Achterberg, E. L. | Seguin. |
| Aden, Robert Frank | Henry, Tenn. |
| Albus, Francis | Munday. |
| Baca, Frank Victor | Rosebud. |
| Ball, Jesse Lee | Lexington. |
| Bartels, Arno Gustav | Spring Branch. |
| Batten, Rufus Pinkney | Zack. |
| Beckendorff, Otto Robert | La Grange. |
| Black, Raymond D. | Grapeland. |
| Boddy, Carl E. | Centrahoma, Okla. |
| Brett, Jesse Rodolph | Willis. |
| Burnham, Marion T. | Goldthwaite. |
| Burroughs, Stirling | Buffalo. |
| Clayton, Hoy | Foard City. |
| Combs, John C. | Jasper. |
| Crenshaw, Perry T. | Bryan. |
| Davidson, Leonard Paul | Almeda. |
| Dehaney, Marion Edward | Fort Worth |
| Dolohite, Edwin Earl | Johnson City. |
| Doss, Hartwell Hampton | San Saba. |
| Eloge, Fritz Henry | Francitas. |
| Elsik, Frank J. | Kingsville. |
| Fowler, Odie | Shelbyville. |
| Fowler, William Lewis | Paint Rock. |
| Francis, Robbie Walter | Tabor. |

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| Frye, Richard August | Dawn. |
| Gaines, Jesse Richard | Anna. |
| Gall, Rudolph Edward | Dime Box. |
| Glass, Donavon Kelso | Denison. |
| Goolsbee, Wylie Vinson | Chester. |
| Gray, James Edwin | Fort Worth. |
| Guggolz, Leander W. | Gatesville. |
| Hager, Rex | Easterly. |
| Hames, Warren V. | Crosbyton. |
| Harding, John Reagen | Palestine. |
| Harris, William Guy | Center |
| Haskovec, Josef Frank | Ennis |
| Helm, Fielding | Plainview. |
| Higgins, William Frank | Fort Davis. |
| Hill, Edwin Bruce | Houston. |
| Jackson, Sam | College Station |
| Jaster, Arthur | Carmine. |
| Kadlecek, Eddie J. | Hempstead. |
| Keefer, Ira Thomas | Normangee. |
| Keene, Wade Hampton | Ravenna |
| Kennard, Don | Longview. |
| Kennedy, Willie Dick | Anson. |
| Kilpatrick, Ollie Marshall | Olney. |
| Krieg, Werner Emil | Taylor. |
| Kroll, Selcer Floyd | Richards. |
| Krueger, Alfred Max | Twin Sisters. |
| Lander, Walter David | Burlington. |
| Lange, Theobald | Fredericksburg. |
| Lemons, Earl Leroy | Hugo, Okla. |
| Lewis, Harry W. | Cleveland. |
| Low, Jack | Brownwood. |
| McCarty, Phillip Edgar | Floydada. |
| McRee, Victor Hugo | Texhoma, Okla. |
| McSpadden, Percy Stanley | Nevada. |
| Maigne, Charlie C. | Bryan. |
| Meyers, Edna Lu | Wellborn. |
| Mitchell, Wendell Harold | College Station. |
| Moore, Claud A. | Zephyr. |
| Morris, Arther Amos | Hiwassee, Ark. |
| Morse, J. S. | Brady |
| Nash, Ernest H. | Edge. |
| Odor, Ernest Holt | Munday |
| Parr, Atlee | Benavides. |
| Parrish, Carroll Henry | D'Hanis. |
| Peterson, Hans, Jr. | Chocolate Bayou |
| Phillips, Floyd Clayton | Rowden. |
| Pirtle, W. | Freeport. |
| Pohlmeyer, William | Brenham. |
| Poteet, Fred | Holland. |
| Purvis, Fred S. | Fuqua. |
| Quillen, John Pressley | Pittsburg. |
| Randolph, Manse Youlee | Madisonville. |
| Ratcliffe, Eldridge Preston | Jasper. |
| Reierson, Ernest Philip | Fairy. |
| Reiss, Herbert Oscar | Franklin |
| Reissig, Robert Benjamin | Creedmoor. |
| Robles, Fernando | Silao, Gto., Mexico. |
| Scanlin, Tony | Bryan |
| Schomberg, Walter Gustav | Brenham. |
| Schott, John Henry | Wacc. |
| Scoggin, Jesse Edwin | Killeen. |

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| Scurlock, Shirley William | Beaumont. |
| Shield, Bernard Herbert | Brownwood. |
| Smith, Charles | Melvin. |
| Snell, Reuben John | Glen Rose. |
| Soland, Milton Boyles | Houston. |
| Spitzer, Herman Rudolph | Brenham. |
| Stephan, Steve | Brookshire. |
| Stolte, Arthur H. | New Braunfels. |
| Taylor, Lewis Richard | Doddridge, Ark. |
| Trchalek, Joe John | Caldwell. |
| Urbanek, John Jerry | Waller. |
| Vojkuvka, Bill | Lyons. |
| Vojkuvka, John Joe | Lvons |
| Wells, Richard Taylor | West Plains, Mo. |
| White, Adolphus Herndon | Teague. |
| Williams, Floyd James | Allen. |
| Williams, Harry Grady | Grapeland. |
| Williams, Hilliard R. | Grapeland. |
| Wilson, Garland | Jasper. |
| Winn, Thomas Loal | Jermyn. |
| Woolems, William Oscar | Cleburne. |
| Wright, Edgar Milton | Carlton. |
| Young, Wilburn L. | Dawn. |
| Zarsky, John | Woodsboro. |

SUMMER SESSION 1920.

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| Addison, J. M. | College | Huntsville |
| Alexander, E. R. | College | College Station |
| Alexander, R. K. | College | Weatherford |
| Alford, R. F. | Auto Mechanics | Rockdale |
| Allison, J. M. | Normal | Henrietta |
| Aisup, E. | College | Harwood |
| Ammons, C. N. | College | Waco |
| Ammons, G. M. | College | Richland |
| Ammons, Mrs. G. M. | College | Richland |
| Anglin, M. H. | College | New Orleans, La. |
| Ansley, G. E. | Cotton | Classing Houston |
| Armstrong, P. W. | College | Amarillo |
| Armstrong, W. H. | College | Paterson, N. J. |
| Ashburn, J. C. | Cotton | Classing Groesbeck |
| Ashford, L. | College | Navasota |
| Ashmore, D. G. | College | Dallas |
| Aten, I. F. | Rural Life | Bryan |
| Bailey, E. I. | College | Waco |
| Ballew, J. H. | Cotton | Classing Troup |
| Barnes, C. H. | Cotton | Classing Marshall |
| Barrenea, F. A. | College | Mexico City, Mexico |
| Baskett, J. L. | College | Dallas |
| Bass, O. R. | Auto Mechanics | North Zulch |
| Bates, J. J. | College | Prairie Hill |
| Baty, Mrs. W. S. | Normal | Courtney |
| Bauerlein, T. J. | Rural Life | Medina |
| Beasley, C. S. | Cotton | Classing Campbell |
| Beazley, W. H. | College | Crockett |
| Beck, E. D. | College | Austin |
| Bedell, J. P. | Cotton | Classing Naples |
| Beesley, Ben B. | College | Lancaster |
| Beesley, R. M. | Cotton | Classing Campbell |
| Beken, C. G. | Cotton | Classing Kansas City, Mo. |

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| Bell, F. L. | College | Marshall |
| Bell, George | Rural Life | Annona |
| Bell, James A. | Rural Life | Ames |
| Berger, Joseph P. | Rural Life | Newcastle, Pa. |
| Berny, H. J. | Auto Mechanics | Sugarland |
| Berry, R. E. | Cotton Classing | Mesquite |
| Besse, D. J. | Cotton Classing | Weatherford |
| Beyer, Alfred G. | Rural Life | Ellinger |
| Billingsley, H. C. | Cotton Classing | Alvarado |
| Birk, C. E. | College | Iowa Park |
| Bizzell, William Sangster | College | College Station |
| Black, J. D. | Cotton Classing | Jarrell |
| Black, L. R. | Cotton Classing | Temple |
| Bobo, C. E. | College | Taber |
| Boggs, E. D. | Auto Mechanics | Marquez |
| Bolton, J. F. | College | Huntsville |
| Bomar, W. W. | Cotton Classing | Honey Grove |
| Bond, Jessie | Normal | Bryan |
| Bond, W. E. | Cotton Classing | Cuthand |
| Boney, J. W. | Rural Life | Bedias |
| Bonner, F. L. | Cotton Classing | Galveston |
| Bonner, J. O. | Cotton Classing | Aquilla |
| Boone, F. J. | Rural Life | Fort Worth |
| Boozer, S. H. | Cotton Classing | Gainesville |
| Boriskie, F. W. | College | Bryan |
| Bouchillon, Mrs. Inus | Normal | College Station |
| Bowden, J. E. | Cotton Classing | Little Rock, Ark. |
| Bowie, Joseph P. | Cotton Classing | Oklahoma City, Ok. |
| Boyce, J. T. | College | Okolona, Ark. |
| Boyett, A. P. | Cotton Classing | College Station |
| Boyette, Mildred | Normal | Bryan |
| Braden, W. H. | Cotton Classing | Quinton, Okla. |
| Bradley, Bessie | Normal | Carmona |
| Brennan, J. P. | Cotton Classing | Houston |
| Brewer, E. H. | Cotton Classing | Brownwood |
| Brewer, H. B. | Rural Life | Henryetta, Okla. |
| Bridges, R. E. | College | Winfield |
| Briggs, R. B. | Cotton Classing | Abilene |
| Broadway, R. F. | Normal | North Zulch |
| Brooks, J. R. | College | Pilot Point |
| Brooks, T. H. | Normal | Wharton |
| Brown, Alma L. | Normal | Somerville |
| Brown, Grace | Normal | Somerville |
| Brown, E. L. | Cotton Classing | Madisonville |
| Brown, F. E. | Cotton Classing | Madisonville |
| Brown, G. H. | College | Berwick, La. |
| Brown, H. L. | Rural Life | Bryan |
| Brown, J. H. | Cotton Classing | Houston |
| Brown, Pearl | Normal | Devine |
| Brown, Rober | Cotton Classing | San Marcos |
| Brown, Tom | Normal | Bryan |
| Bruce, R. H. | Cotton Classing | Valley Mills |
| Brusenhan, E. C. | Cotton Classing | Coleman |
| Bryan, Mrs. W. P. | Normal | Bryan |
| Buchanan, Henry | Normal | Bryan |
| Buescher, L. A. | College | Moulton |
| Buescher, N. E. | College | Smithville |
| Buie, F. P. | College | Waxahachie |
| Buie, M. L. | Cotton Classing | Brenham |
| Bullock, H. C. | Cotton Classing | Burleson |
| Burch, Aubre | Auto Mechanics | Donna |

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| Burkhart, J. N. | Cotton Classing. | Mission |
| Burnitt, Bessie | Normal | Calvert |
| Burnitt, Eleanor | Normal | Calvert |
| Burnitt, Minnie | Normal | Calvert |
| Burns, W. B. | Cotton Classing. | Karnes City |
| Bush, Nolan Austin | Rural Life | Naples |
| Bussell, R. W. | College | Palacios |
| Bussey, E. D. | College | Longview |
| Bynum, W. A. | College | Midlothian |
| Cahill, Mary | Normal | Bryan |
| Caldwell, Hal | Auto Mechanics. | Haslam |
| Calhoun, J. C. | College | Houston |
| Calvin, C. C. | Cotton Classing. | Scurry |
| Campbell, J. V. | Auto Mechanics. | Bryan |
| Campbell, W. | Cotton Classing. | Bryan |
| Canion, Claude | College | Port Lavaca |
| Cape, John Dewey | College | San Marcos |
| Carmichael, J. F. | Rural Life | Granbury |
| Carmichael, P. R. | Cotton Classing. | Granbury |
| Carrion, M. G. | College | Piura, Peru, S. A. |
| Carson, Charles W. | College | Eagle Pass |
| Carter, H. L. | Cotton Classing. | Shelbyville |
| Carvalho, Sylvio de | Cotton Classing. | Bello Horijonte, Brazil. |
| Cassling, C. E. | Cotton Classing. | Houston |
| Cavitt, Emly | Normal | Bryan |
| Cejka, Fred George | Rural Life | Sublime |
| Chamberlain, G. S. | Cotton Classing. | Sulphur Springs |
| Chery, Iva | Normal | College Station |
| Choate, C. | Cotton Classing. | Randolph |
| Claypool, T. H. | College | Waco |
| Clayton, H. E. | Cotton Classing. | Greenville |
| Clayton, R. L. | College | Waco |
| Clement, W. B. | College | Denton |
| Cleveland, N. A. | College | Falfurrias |
| Cobb, H. E. | Cotton Classing. | Chicago, Ill. |
| Cobb, H. T. | Rural Life | Fate |
| Cobb, T. C. | College | Skidmore |
| Cobb, W. C. | Cotton Classing. | West |
| Cochran, C. V. | College | Leesville |
| Coffey, Emma | Normal | New Baden |
| Coman, R. M. | College | Perkinston, Miss. |
| Compton, Charles Reid | College | Waco |
| Conaway, J. P. | Normal | Bryan |
| Conaway, Ella | Normal | Bryan |
| Conner, John T. | Rural Life | Bryan |
| Cook, H. W. | Cotton Classing. | Smithville |
| Cook, J. M. | Cotton Classing. | Bryan |
| Cooper, A. M. | College | Bryan |
| Covey, R. S. | College | College Station |
| Covington, A. B. | Rural Life | Dallas |
| Cowan, R. T. | Cotton Classing. | Abbott |
| Cox, W. W. | College | Smithville |
| Craft, Sam H. | Cotton Classing. | Frisco |
| Craig, J. N. | Cotton Classing. | Timpson |
| Cravens, W. O. | Cotton Classing. | Honey Grove |
| Crawford, J. C. | College | Nacogdoches |
| Culmore, C. B. | Cotton Classing. | Houston |
| Culver, D. L. | Cotton Classing. | Bryan |
| Cummings, W. N. | Cotton Classing. | Sasawaka, Okla. |

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| Curry, N. F. | Auto Mechanics. | Rockdale |
| Daly, H. J. | Cotton Classing. | Arkadelphia, Ark. |
| Daniels, C. E. | Cotton Classing. | Pauls Valley, Ok. |
| Darnell, O. | College | Aransas Pass |
| Davis, A. | Cotton Classing. | Buffalo |
| Davis, Austin N. | Rural Life | College Station |
| Davis, D. P. | Rural Life | Ballinger |
| Davis, H. | Rural Life | Bryan |
| Davis, H. S. | Cotton Classing. | Anna |
| Davis, K. M. | Cotton Classing. | Mart |
| Davis, Leslie C. | College | Rockdale |
| Davis, R. C. | Cotton Classing. | Houston |
| Davis, Roy F. | College | Nacogdoches |
| Dean, A. A. | Rural Life | San Saba |
| Dean E. E. | College | Longview, Miss. |
| Dean, K. | Cotton Classing. | Houston |
| Deering, P. A. | College | Kenedy |
| Dees, D. B. | Rural Life | Bland Lake |
| Demmer, Royce | Cotton Classing. | Woodsboro |
| Dewald, J. P. | College | Pendleton |
| Dial, F. S. | Cotton Classing. | Austin |
| Dial, H. | Cotton Classing. | Tecumseh, Okla. |
| Dickey, G. L. | College | Grapeland |
| Dietrich, Philip K. | College | Riverside, N. J. |
| Dillen, Maggie B. | Normal | Brenham |
| Dinwiddie, O. D. | Rural Life | Tulia |
| Dodd, W. G. | Cotton Classing. | Shiro |
| Dowd, L. E. | Cotton Classing. | Hope, Ark. |
| Drake, W. E. | Auto Mechanics. | Slidell |
| Dreeke, H. L. | College | San Antonio |
| Droz, J. A. | Rural Life | Penelope |
| Dumas, L. W. | College | Bullard |
| Duncan, J. K. | Cotton Classing. | Crandall |
| Dulaney, H. E. | Cotton Classing. | Bryan |
| DuPre, W. L. | Cotton Classing. | Victoria |
| Dyer, F. G. | Normal | Hamlin |
| Dykes, J. C. | College | Dallas |
| Earle, J. R. | Rural Life | Wills Point |
| Eaves, R. A. | Rural Life | Doucette |
| Eden, C. L. | Cotton Classing. | Bryan |
| Edge, Miss Hettie | Normal | Bryan |
| Edmondson, W. J. | College | San Marcos |
| Eidson, J. P. | Cotton Classing. | Karnes City |
| Elder, R. E. | College | Donna |
| Elliott, J. W. | Cotton Classing. | Belton |
| Ellisor, G. C. | College | Evergreen |
| Evans, F. B. | Cotton Classing. | Big Springs |
| Fair, D. L. | Rural Life | Hillsboro |
| Faulkner, R. C. | College | Sherman |
| Fehlis, Robert | Rural Life | Buda |
| Fenner, C. B. | College | Cordele |
| Fenstermaker, A. | College | San Antonio |
| Ferguson, P. L. | Cotton Classing. | Bryan |
| Fernandes, J. M. | Cotton Classing. | Brazil, S. A. |
| Fiek, H. W. | Cotton Classing. | Victoria |
| Filho, A. V. | Rural Life | Brazil, S. A. |
| Fish, A. H. | Rural Life | Fort Worth |
| Fischer, Mrs. Nettie E. | Normal | Brenham |
| Fleming, E. M. | Cotton Classing. | Brownfield |
| Fletcher, R. K. | College | College Station |

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| Flow, M. | Cotton Classing. | Mangum, Okla. |
| Forbes, A. L. | College | Houston |
| Ford, A. B. | College | Normangee |
| Foster, S. C. | Auto Mechanics. | Richards |
| Foster, T. O. | College | San Antonio |
| Fox, J. U. | Cotton Classing. | Broadbudd |
| Freeman, E. M. | College | Marshall |
| Fritsch, Harry C. | Rural Life | Ellinger |
| Fritts, T. A. | College | Fort Worth |
| Fry, B. | Cotton Classing. | |
| Fuchs, C. | Cotton Classing. | Cypress Mills |
| Fuchs, E. H. | Auto Mechanics. | Abernathy |
| Galbreath, J. M. | Rural Life | Brownwood |
| Galligan, W. P. | College | Austin |
| Gamble, C. A. | Cotton Classing. | Italy |
| Garnett, E. W. | College | Denton |
| Garrett, E. H. | Cotton Classing. | Driftwood |
| Garrison, B. D. | Cotton Classing. | Honey Grove |
| Gary, C. | Cotton Classing. | Bonham |
| Gibson, L. R. | Cotton Classing. | Melissa |
| Gideon, E. H. | Cotton Classing. | Conawa, Okla. |
| Giesecke, A. | Cotton Classing. | Ballinger |
| Giesenschlag, Mrs. Addie. | Normal | Snook |
| Giesenschlag, E. L. | Cotton Classing. | Snook |
| Gilliland, Gilbert Lee. | Rural Life | Dyerburg, Tenn. |
| Gilstrap, H. M. | Cotton Classing. | Granger |
| Gingrich, D. L. | Cotton Classing. | Luther, Okla. |
| Gipson, W. F. | Cotton Classing. | Gilmer |
| Glaze, B. C. | College | Goliad |
| Glazener, V. R. | College | Fairfield |
| Glenn, C. H. | Cotton Classing. | Bynum |
| Glover, C. | Cotton Classing. | Bryan |
| Gonzalez, Vicente Francisco. | College | Mexico City, Mex. |
| Goolsbee, W. V. | Auto Mechanics. | Chester |
| Gordon, Robert B. | College | Eden |
| Gossman, H. L. | Cotton Classing. | Victoria |
| Gott, Miss Julia S. | Cotton Classing. | Rosebud |
| Gourley, W. M. | College | Gonzales |
| Graham, J. C. | College | Forlon, Tamps, Mex. |
| Graham, W. P. | College | Bryan |
| Grantham, H. N. | Cotton Classing. | McGregor |
| Green, W. E. | Cotton Classing. | Roby |
| Greer, D. | Cotton Classing. | Nacogdoches |
| Greer, R. S. | Cotton Classing. | Dallas |
| Griffin, J. C. | Cotton Classing. | Bedias |
| Griswold, W. F. | College | Waco |
| Grizzle, Homer | College | Dallas |
| Grothaus, F. E. | College | San Antonio |
| Grun, W. H. | Auto Mechanics. | Davy |
| Guenther, F. M. | Cotton Classing. | San Antonio |
| Guimaraes, Luis, Jr. | Cotton Classing. | Brazil, S. A. |
| Hale, A. F. | Rural Life | Decatur |
| Hale, C. A. | Normal | Roxton |
| Haley, R. G. | College | Royal Oak, Mich. |
| Hall, F. P. | College | Arlington |
| Hampton, F. | Normal | Ireland |
| Handrick, J. A. | College | Lincoln |
| Hannaford, W. E. | College | Granbury |
| Haraway, E. M. | Cotton Classing. | Quinton, Okla. |
| Harber, M. L. | Cotton Classing. | Abilene |

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| Hardin, J. W. | Cotton Classing. | Lexington, Okla. |
| Hargrave, S. L. | Cotton Classing. | Pittsburg |
| Harkey, T. W. | Rural Life | Austin |
| Harris, C. C. | Cotton Classing. | Rosebud |
| Harris, G. F. | College | Menard |
| Harris, R. A. | Cotton Classing. | Red Rock |
| Harris, S. | Rural Life | Waco |
| Hartson, Rowe Leonard | Rural Life | Proctor |
| Harvey, W. H. | Cotton Classing. | McDade |
| Haynes, P. | College | Letohatchee, Ala. |
| Hearrell, J. B. | Cotton Classing. | Bronte |
| Heatly, R. F. | Cotton Classing. | Evant |
| Hellums, A. J. | College | Belton |
| Henderson, O. | Cotton Classing. | Waelder |
| Henderson, S. H. | Cotton Classing. | Sulphur Springs |
| Hendry, J. M. | Cotton Classing. | Snyder |
| Henkhaus, O. C. | Cotton Classing. | Shiner |
| Henry, H. | Cotton Classing. | Denison |
| Henry, L. A. | Auto Mechanics. | Crawley |
| Herndon, H. | Cotton Classing. | Franklin |
| Heslep, N. G. | Cotton Classing. | Caldwell |
| Hester, S. G. | College | Thomas |
| Hickman, J. B. | Normal | Bryan |
| Hickman, T. C. | College | Tuleta |
| Hill, S. H. | Cotton Classing. | Melissa |
| Hill, V. B. | Cotton Classing. | Melissa |
| Hilton, N. H. | College | Houston |
| Hinds, J. H. | College | Austin |
| Hobbs, Edward W. | College | Rice |
| Hockaday, H. K. | Normal | Cleburne |
| Hodges, R. B. | Cotton Classing. | Lott |
| Holder, W. H. | Rural Life | Waller |
| Holmes, H. C. | Cotton Classing. | Leesville |
| Homeyer, W. C. | College | Marshall |
| Hooks, G. A. | Cotton Classing. | Cameron |
| Hooper, J. F. | College | Rock Island |
| Houser, T. B. | Cotton Classing. | Royse City |
| Houston, F. N. | College | Lake Charles, La. |
| Houston, W. S. | Cotton Classing. | Kemp |
| Howard, E. R. | College | Thrall |
| Howell, L. D. | College | Bexar, Ala. |
| Howell, R. H. | College | Bexar, Ala. |
| Hawpe, L. T. | Cotton Classing. | Rush Springs, Okla. |
| Huddiston, E. | Cotton Classing. | Weatherford |
| Hughes, W. L. | College | Brady |
| Hunnicutt, Ella | Normal | Bryan |
| Hunnicutt, Pearl | Normal | Bryan |
| Hurley, H. P. | Cotton Classing. | Granger |
| Hutson, W. | Cotton Classing. | Lubbock |
| Hyland, Katherine | College | College Station |
| Jackson, A. L. | Cotton Classing. | Houston |
| James, R. D. | Rural Life | Granbury |
| Jennings, C. | Cotton Classing. | Dallas |
| Johnson, E. M. | Cotton Classing. | Merit |
| Johnson, W. H. | Cotton Classing. | Athens |
| Johnson, W. H. | Rural Life | Bryan |
| Johnston, S. C. | Cotton Classing. | Sherman |
| Jones, B. | Cotton Classing. | Como |
| Jones, B. C. | College | Waco |
| Jones, J. O. | Cotton Classing. | Greenville |

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| Jones, L. G. | College | Temple |
| Jones, R. S. | Cotton Classing. | Terrell |
| Jordon, N. B. | Cotton Classing. | San Antonio |
| Kaderli, W. A. | Cotton Classing. | Stanton |
| Karcher, A. H. | Cotton Classing. | Dime Box |
| Karrh, W. L. | Cotton Classing. | De Kalb |
| Kawasaki, I. | Cotton Classing. | Dallas |
| Keating, G. C. | Cotton Classing. | Zephyr |
| Keith, J. D. | College | Pindall, Ark. |
| Kelleher, T. G. | Cotton Classing. | Little Rock, Ark. |
| Kelly, B. F. | Cotton Classing. | San Antonio |
| Kelly, R. | Cotton Classing. | Abilene |
| Kelton, S. M. | Cotton Classing. | McDade |
| Kempen, G. J. | College | Seguin |
| Kennedy, Mrs. E. R. | Normal | Bryan |
| Kerr, H. S. | College | Amarillo |
| Kerr, P. M. | College | Detroit |
| Keys, C. C. | Cotton Classing. | Kountze |
| Kilgore, W. B. | Cotton Classing. | Otto |
| Kimbell, R. | Cotton Classing. | Altus, Okla. |
| Knappenberger, H. | Cotton Classing. | Seminola, Okla. |
| Knight, K. F. | College | Tahoka |
| Kosh, L. | Auto Mechan'cs. | Bryan |
| Kunkel, C. M. | College | San Antonio |
| Lakner, Katherine | Cotton Classing. | Port Lavaca |
| Land, L. W. | Cotton Classing. | Smithville |
| Lane, Fletcher | College | |
| Lane, J. L. | Cotton Classing. | Dublin |
| Langston, J. H. | College | Crockett |
| Lassiter, N. H. | Rural Life | Frost |
| Latimer, F. | Rural Life | Clarksville |
| Lawrance, J. M. | Cotton Classing. | Blossom |
| Leathers, S. L. | Cotton Classing. | Middleton |
| LeMay, S. R. | College | Crockett |
| Lemons, E. L. | Rural Life | Bryan |
| Lenoir, R. L. | Cotton Classing. | Blossom |
| Leonard, E. L. | Cotton Classing. | Madisonville |
| Lester, J. L. | College | Huntsville |
| Lester, W. P. | Cotton Classing. | Robstown |
| Leveridge, J. H. | Cotton Classing. | East Bernard |
| Lewis, C. | Cotton Classing. | Brownfield |
| Lewis, C. C. | Rural Life | Jonesboro, La. |
| Lewis, T. B. | College | Fort Worth |
| Lightfoot, J. A. | Rural Life | McMan, Okla. |
| Liles, E. R. | Auto Mechanics. | Chico |
| Liles, W. C. | Auto Mechanics. | Chico |
| Littlepage, C. R. | Cotton Classing. | Greenville |
| Lloyd, A. C. | College | Reagan |
| Logan, C. E. | Cotton Classing. | Winsboro |
| Lookabough, R. | Normal | Neches |
| Louckx, C. O. | Cotton Classing. | Dallas |
| Loving, O. | College | Jermyn |
| Lowman, H. L. | Cotton Classing. | Staples |
| Lowry, J. T. | Auto Mechanics. | Rusk |
| Lowry, R. M. | Cotton Classing. | Ballinger |
| Luttrell, W. B. | Cotton Classing. | Yoakum |
| Lyles, J. E. | Cotton Classing. | Navasota |
| McCarty, T. J. | College | Cisco |

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| McClane, N. R., Jr. | Cotton Classing. | Kenedy |
| McClure, F. A. | Rural Life | San Antonio |
| McCrorey, H. S. | Cotton Classing. | Waelder |
| McCullough, Myrtle | Normal | Bryan |
| McDonald, A. | Cotton Classing. | Fort Worth |
| McDonald, E. O. | Cotton Classing. | Abilene |
| McDonald, H. A. | Cotton Classing. | Willis |
| McFarland, J. C. | College | Boerne |
| McGee, R. V. | College | Bryan |
| McGlothing, A. V. | College | College Station |
| McInnis, Malcolm | Normal | Bryan |
| McKeen, E. E. | College | Quinlan |
| McKinney, W. H. | College | Rosenberg |
| McLaury, W. R. | College | Snyder, Okla. |
| McLemore, F. E. | College | Ennis |
| McMeans, B. | Cotton Classing. | Bynum |
| McNeal, H. R. | College | Dawson |
| McNelly, C. B. | College | Uvalde |
| McNally, F. | Cotton Classing. | Mangum, Okla. |
| McPheeters, W. H. | College | College Station |
| McQueen, R. C. | Cotton Classing. | Hearne |
| McRimmon, M. D. | College | Troup |
| McSpadden, P. S. | Rural Life | Nevada |
| McTaggart, E. D. | Cotton Classing. | Stillwater, Okla. |
| McWhirter, B. F. | Cotton Classing. | Kemp |
| Magee, J. | Cotton Classing. | Lockhart |
| Mahan, A. | College | Walnut Ridge, Ark. |
| Mahaffey, C. B. | Cotton Classing. | Blackwell |
| Maizumi, F. P. | Cotton Classing. | San Antonio |
| Malone, M. L. | College | Ballinger |
| Mangum, J. F. | College | Hempstead |
| Mann, R. J. | Cotton Classing. | Magnolia |
| Manning, P. | Normal | Leonard |
| Manning, R. | College | Leonard |
| Marquardt, L. N. | Rural Life | Millican |
| Marshall, F. A. | Rural Life | San Antonio |
| Martin, Clara | Normal | College Station |
| Martin, F. P. | Cotton Classing. | Jacksonville, Ark. |
| Martin, J. T. | College | Justin |
| Martin, J. W. | Rural Life | Bryan |
| Matney, E. A. | College | Fort Worth |
| Maxson, T. E. | College | Fort Worth |
| May, I. M. | College | Normangee |
| Mayes, W. T. | College | Bryan |
| Merchant, Cecelia | Normal | Sealy |
| Merrell, J. | Cotton Classing. | Weatherford |
| Meyers, F. P. | College | Cameron |
| Miles, H. U. | College | Galveston |
| Miles, W. J. | College | Mineral Wells |
| Miller, C. | Cotton Classing. | Clifton |
| Miller, E. J. | Rural Life | Crystal City |
| Mills, W. R. | Cotton Classing. | Timpson |
| Milroy, W. R. | Cotton Classing. | Navasota |
| Milstead, J. O. | College | Winfield |
| Milton, J. | Rural Life | Groesbeck |
| Mims, Laura | Normal | Bryan |
| Mims, M. P. | College | Cleburne |
| Mitchamore, C. E. | College | Brenham |
| Mitchell, W. H. | College | College Station |
| Mixson, E. | Cotton Classing. | Commerce |
| Mizell, J. L. | College | Dallas |

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| Mobley, R. A. | College | Marble Falls |
| Moguel, F. R. | College | Oaxaca, Mexico |
| Mondy, R. T. | Cotton Classing | Greenville |
| Monk, J. W. | College | Center |
| Montgomery, J. P. | Cotton Classing | Hico |
| Montgomery, W. E. | College | San Marcos |
| Moon, Mrs. Willie | Normal | Bryan |
| Moore, F. G. | College | Bryan |
| Moore, J. I. | College | Hubbard |
| Moore, T. M. | College | Kurten |
| Moreland, H. L. | Cotton Classing | Hearne |
| Morgan, W. R. | College | Emory |
| Morrow, C. E. | Cotton Classing | Reids, La. |
| Mosley, J. E. | Rural Life | North Zulch |
| Mullane, W. A. | College | Houston |
| Murray, J. R. | Cotton Classing | Poteau, Okla. |
| Murray, R. E. | Cotton Classing | Sutherland |
| Mulvey, W. B. | College | Houston |
| Myers, A. W. | Rural Life | Hilleman, Ark. |
| Nagel, Ruby | Normal | Round Top |
| Newhaus, J. V. | Cotton Classing | Houston |
| Newton, L. | Cotton Classing | Milano |
| Newman, A. R. | Rural Life | Hondo |
| Neynaber, A. C. | College | Galveston |
| Niebuhr, W. A. | College | Brenham |
| Nielsen, Mrs. A. A. | Cotton Classing | Galveston |
| Norris, W. B. | Rural Life | Caviness |
| Nunn, P. Y. | Cotton Classing | Bryan |
| O'Banion, J. W. | Normal | Ennis |
| Odum, A. M. | Cotton Classing | Memphis, Tenn. |
| Oliver, E. | College | Kountze |
| Oliver, L. | Cotton Classing | Lampasas |
| Oplinger, C. W. | Cotton Classing | Macomb, Okla. |
| Orr, J. A. | College | Blytheville, Ark. |
| Ortolani, W. A. | College | College Station |
| Osborne, S. V. | Cotton Classing | Brandon |
| Owen, B. | Rural Life | Dodd City |
| Palmer, J. C. | Normal | Fort Worth |
| Park, C. E. | Cotton Classing | Red Oak, Okla. |
| Park, F. L. | College | College Station |
| Park, P. S., Jr. | College | Bryan |
| Parker, C. D. | College | Dilley |
| Parker, Mrs. C. D. | College | Dilley |
| Parker, W. T. S. | Rural Life | Fort Stockton |
| Patterson, F. H. | College | Kyle |
| Patterson, H. S. | Rural Life | Alcreek, Colo. |
| Paul, W. W. | Cotton Classing | Weatherford |
| Pearson, G. W. | Cotton Classing | Houston |
| Pearson, L. G. | College | Ellisville, Miss. |
| Perkins, L. S. | College | Calvert |
| Perritte, S. V. | College | Wallace |
| Peterson, L. R. | Cotton Classing | Creedmore |
| Pfluger, W. L. | Normal | Eden |
| Phillips, E. | Cotton Classing | Waco |
| Pierce, L. A. | Rural Life | Marshall |
| Pledger, J. E. | Cotton Classing | Austin |
| Porter, J. W. | College | Terrell |
| Potts, C. B. | College | Batesville |

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| Potts, H. C. | Cotton Classing. | Munroe, La. |
| Potts, T. P. | College | Valley Mills |
| Powell, I. | Cotton Classing. | Rosebud |
| Powers, L. T. | Cotton Classing. | Mangum, Okla. |
| Presnal, E. | Rural Life | Bryan |
| Prewitt, J. A. | Rural Life | Round Rock |
| Price, E. O. | Cotton Classing. | Hermitage, Ark. |
| Pringle, P. | Cotton Classing. | Marlin |
| Probst, A. E. | College | George West |
| Proctor, C. N. | Cotton Classing. | Winters |
| Ragsdale, T. W. | College | Jacksonville |
| Raley, R. L. | Cotton Classing. | Valley Mills |
| Ramage, J. | College | Davy |
| Ramsey, R. H. | College | Goliad |
| Ransome, W. M. | Auto Mechanics. | Bastrop |
| Rathbone, H. E. | Cotton Classing. | Victoria |
| Reagan, G. H. | College | Dallas |
| Real, C. | College | Kerrville |
| Redditt, T. G. | College | Center |
| Reed, C. V. | College | Cooledge |
| Reese, R. | College | Farmersville |
| Reid, J. J. | College | Bryan |
| Rene, F. H. | Cotton Classing. | Brenham |
| Reynaud, O. F. | College | Houston |
| Rhodes, T. G. | Cotton Classing. | Franklin |
| Rice, W. F. | College | Lindale |
| Richards, W. B. | College | Kilgore |
| Riesel, H. W. | Auto Mechanics. | Alvin |
| Riley, J. B. | Cotton Classing. | Calvert |
| Ripley, D. H. | Cotton Classing. | Taylor |
| Riveire, J. W. | Cotton Classing. | Helm, Miss. |
| Rix, R. A. | College | Madisonville |
| Roark, J. B. | College | Bullard |
| Roberson, L. E. | Cotton Classing. | Clairette |
| Roberts, J. B. | College | Crawford |
| Robertson, C. T. | Rural Life | East Vaughn, N. M |
| Robertson, L. B. | Cotton Classing. | Greenville |
| Robey, G. W. | Cotton Classing. | Coleman |
| Robinson, L. C. | Cotton Classing. | Little Rock, Ark. |
| Rodriguez, W. D. H. | Cotton Classing. | Munroe, La. |
| Rogers, Maude | Normal | Bonham |
| Rollins, J. T. | College | China |
| Root, J. A. | Cotton Classing. | Burnet |
| Roper, W. N. | College | Rosebud |
| Roseborough, R. A. | College | Marshall |
| Ross, L. R. | Cotton Classing. | Bowie |
| Rudd, F. | College | Burkeville |
| Rugelay, R. | Cotton Classing. | Bay City |
| Russell, J. | Cotton Classing. | Alma, Okla. |
| Ryan, O. T. | College | Livingston |
| Saunders, J. L. | College | Smithville |
| Sawyer, C. M. | Rural Life | Millican |
| Scales, R. H. | College | San Antonio |
| Schaefer, E. H. | College | San Antonio |
| Scherz, A. D. | Cotton Classing. | Timpson |
| Schlather, E. | Cotton Classing. | Cibola |
| Schroeder, E. | Auto Mechanics. | Monteola |
| Seale, J. T. | Cotton Classing. | Thornton |
| Sears, E. F. | Cotton Classing. | Snyder |

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| Seyle, S. R. | College | Houston |
| Shelton, W. R. | Cotton Classing | Grandview |
| Sheppard, E. P. | Cotton Classing | Dallas |
| Shoemaker, E. D. | Cotton Classing | Commerce |
| Simmons, Edd | Auto Mechanics | Normangee |
| Simmons, W. E. | College | Dayton |
| Simons, V. R. | Cotton Classing | Edna |
| Sims, C. T. | College | Cleveland |
| Sims, J. W. | Cotton Classing | Mexia |
| Sims, Miss Kathleen | College | Bryan |
| Skinner, A. A. | College | Kilgore |
| Skinner, S. E. | Cotton Classing | Cooper |
| Skrabaneck, F. J. | Cotton Classing | Caldwell |
| Slater, H. J. | Cotton Classing | Dallas |
| Slaughter, Freda | Normal | Normangee |
| Slaughter, S. B. | College | Madisonville |
| Smith, A. C. L. | College | Ellisville, Miss. |
| Smith, C. C. | College | Trent |
| Smith, C. F. | Cotton Classing | Rison, Ark. |
| Smith, L. D., Jr. | Auto Mechanics | Ashwood |
| Smith, Mrs. Maggie | Normal | Bryan |
| Smith, M. D. | College | Milvid |
| Smith, S. P. | Cotton Classing | Waco |
| Sneed, J. | Normal | Rockport |
| Snell, C. | Normal | Lampasas |
| Sparkman, R. H. | Cotton Classing | Commerce |
| Spencer, R. D. | Cotton Classing | Dublin |
| Spies, B. S. | Rural Life | Weldon |
| Spires E. C. | Cotton Classing | Goliad |
| Spivey J. R. | College | Bellville |
| Stahl, J. J. | Cotton Classing | Karnes City |
| Stallings, A. | College | Bryan |
| Standley, A. C. | Cotton Classing | Huntsville |
| Stapple, T. O. | Cotton Classing | Dallas |
| Stark, J. A. | College | Sealy |
| Steel, J. E. | Cotton Classing | Galveston |
| Stell, T. C. | Cotton Classing | Irene |
| Stephens, G. R. | College | Mission |
| Stermmeyer, H. | Cotton Classing | Karnes City |
| Stetson, G. W. | College | Hightower |
| Stevenson, M. K. | Cotton Classing | Loraine |
| Stiles, W. A. | College | Waco |
| Stokes, D. R. | Rural Life | Springdale, Ark. |
| Stoll, J. | Rural Life | Brenham |
| Story, J. W. | College | Amarillo |
| Strange, J. H. | College | Mart |
| Strange, W. T. | College | Bryan |
| Strickland, A. C. | College | Groesbeck |
| Stude, M. S. | Cotton Classing | Houston |
| Stulken, F. W. | Cotton Classing | Hobson |
| Styron, J. C. | Cotton Classing | Caddo, Okla. |
| Summers, C. Y. | Rural Life | Kirvin |
| Sutton, J. A. | College | Hufsmith |
| Swain, M. S. | College | Huntsville |
| Swan, C. I. | Rural Life | San Antonio |
| Sylvester, J. W. | College | Brady |
| Tandy, C. H. | College | Brownsville |
| Tarver, J. E. | Cotton Classing | Rosebud |
| Taylor, M. D. | Cotton Classing | Arabela, New Mex |
| Taylor, W. G. | Cotton Classing | Holland |

| | | |
|-------------------|-----------------|-------------------|
| Taylor, W. H, Jr. | College | Houston |
| Thomas, F. | Rural Life | De Leon |
| Thomas, R. B. | College | Dallas |
| Thomas, W. L. | Cotton Classing | Humble |
| Thompson, J. G. | Cotton Classing | Rockdale |
| Thurmond, M. F. | College | Meridian |
| Tindall, L. B. | College | Willis |
| Tomlin, E. E. | Auto Mechanics | Rusk |
| Tompkins, J. F. | College | Corpus Christi |
| Tongate, J. M. | College | Brownwood |
| Townsend, F. I. | Cotton Classing | Snyder |
| Tracy, W. C. | Cotton Classing | Victoria |
| Trommell, E. D. | Cotton Classing | Ashland, Okla. |
| Trant, Elva | Normal | Bryan |
| Tuma, H. A. | Auto Mechanics | Rockdale |
| Tune, S. D. | Rural Life | Smyrna, Tenn. |
| Turner, D. L. | College | Dimmitt |
| Turner, J. W. | Cotton Classing | Riesel |
| Turner, L. | Cotton Classing | Yuma, Ariz. |
| Ulbricht, H. H. | Cotton Classing | Kyle |
| Ulbricht, O. H. | Cotton Classing | Kyle |
| Underwood, A. T. | College | Corsicana |
| Upshaw, R. E. | Cotton Classing | Guymon, Okla. |
| Urban, Sophia | Cotton Classing | Caldwell |
| Vanek, L. J. | College | La Grange |
| Van Ness, A. | Auto Mechanics | Anson |
| Van Tuyl, A. J. | College | Fort Worth |
| Vezey, E. E. | Cotton Classing | Sweeney |
| Vick, J. J. | Cotton Classing | Weatherford |
| Viser, T. B. | Cotton Classing | Madisonville |
| Voelkel, K. R. | Cotton Classing | Ballinger |
| Vojkuvka, J. J. | Rural Life | Lyons |
| Waghatler, L. E. | Cotton Classing | Gilmer |
| Wagstaff, J. P. | College | Abilene |
| Walker, A. | Cotton Classing | Bremond |
| Walker, B. | Cotton Classing | Detroit |
| Walker, Effie | Normal | New Baden |
| Walker, E. M. | College | Azle |
| Walker, J. A. | College | Rockwall |
| Walker, J. C. | Cotton Classing | Naples |
| Walker, W. D. | Cotton Classing | Satin |
| Walker, W. E. | Auto Mechanics | Elgin |
| Walla, E. E. | Cotton Classing | West |
| Wallin, Olive | Normal | Caldwell |
| Wallis, J. C. | Cotton Classing | Arkadelphia, Ark. |
| Warden, C. C. B. | College | Roxton |
| Wasserman, L. | Cotton Classing | San Antonio |
| Watson, A. | College | Eagle Pass |
| Weghorst, F. C. | Rural life | Brenham |
| Weinert, M. D. | College | Seguin |
| Wellborn, C. F. | College | Garrison |
| Westbrook, L. | Cotton Classing | Lorena |
| Westbrook, M. E. | Cotton Classing | Menard |
| Westling, C. | Auto Mechanics | Houston |
| Whalen, W. | Auto Mechanics | |
| Whaley, H. M. | Cotton Classing | Corpus Christi |
| White, G. G. | Cotton Classing | Hillsboro |
| White, T. | College | Sealy |

| | | |
|-----------------------|------------------|-----------------|
| White, W. E. | College | Red Fork, Okla. |
| Whiteside, T. R. | Cotton Classing. | Blackwell |
| Whitman, C. D. | College | Waco |
| Wieland, F. A. | Auto Mechanics. | Austin |
| Wigington, H. S. | Rural Life | Hutchins |
| Wilburn, J. B. | Rural Life | Ladonia |
| Wilcox, A. H. | College | Teague |
| Wilcox, George B. | College | Iola |
| Wilkins, C. A. | College | Hasse |
| Wilkinson, J. S. | College | Mineral Wells |
| Wiley, W. | Auto Mechanics | Orange |
| Williams, D. L. | College | Jackson, Miss. |
| Williams, G. L. | Cotton Classing. | Hope, Ark. |
| Williams, J. C. | College | Eagle Lake |
| Williams, H. T. | Cotton Classing. | Blossom |
| Williams, Mary L. | Normal | Brenham |
| Williams, P. | Cotton Classing. | McDade |
| Willis, W. S. | College | Beeville |
| Willson, C. M. | Cotton Classing. | Shawnee, Okla. |
| Wilson, Artie | Normal | Bryan |
| Wilson, E. A. | College | Leonard |
| Wilson, G. P. | Cotton Classing. | Mart |
| Wilson, H. | Cotton Classing. | Childress |
| Wilson, R. | Normal | Bryan |
| Wilson, T. A. | Cotton Classing. | |
| Wittman, Amelia | Normal | Bryan |
| Womack, H. E. | Cotton Classing. | Corpus Christi |
| Womack, M. E. | Cotton Classing. | Blossom |
| Wood, Miss Flora | Normal | Summerville |
| Wood, S. H. | Rural Life | Burleson |
| Woolems, W. O. | Rural Life | Cleburne |
| Woolverton, A. H. | College | Wills Point |
| Worbington, Myrtle H. | Normal | Milano |
| Works, M. M. | College | Amarillo |
| Wright, C. J. | College | Houston |
| Wright, S. R. | College | Weatherford |
| Wyche, R. H. | Rural Life | Riesel |
| Yarberry, O. L. | Cotton Classing. | Mangum, Okla. |
| Yeargin, R. E. | Cotton Classing. | Dallas |
| Zachry, H. B. | College | Houston |
| Zarsky, C. F. | Rural Life | Woodsboro |

SUMMARY OF ENROLLMENT, SESSION 1920-21

| REGULAR COURSES | | | | | | | | | | | | | |
|-----------------|------|------|------|------|-----|--------|------|------|------|------|------|-------|--|
| | Agr. | A.A. | A.E. | V.M. | Ar. | Ch. E. | C.E. | E.E. | M.E. | T.E. | I.E. | Total | |
| Graduate ----- | 12 | -- | 4 | -- | 1 | 1 | 2 | 3 | -- | -- | -- | 23 | |
| Senior ----- | 63 | -- | 3 | 6 | 2 | 12 | 23 | 24 | 13 | 2 | -- | 148 | |
| Junior ----- | 67 | 3 | 3 | 2 | 6 | 42 | 46 | 51 | 30 | 9 | -- | 259 | |
| Sophomore ----- | 82 | 17 | 4 | 4 | 21 | 26 | 61 | 72 | 47 | 7 | -- | 341 | |
| Freshman ----- | 151 | 21 | -- | -- | 17 | 30 | 82 | 130 | 65 | 16 | 1 | 513 | |
| | 375 | 41 | 14 | 12 | 47 | 111 | 214 | 280 | 155 | 34 | 1 | 1284 | |
| Special ----- | 206 | 2 | 8 | -- | 8 | 4 | 14 | 10 | 9 | 1 | 1 | 263 | |

TWO-YEAR COURSES

| | C. | H. | M. | N. | |
|-------------------|-----|----|----|----|-----|
| Second Year ----- | 41 | 4 | 13 | 27 | 85 |
| First year ----- | 61 | 9 | 7 | 28 | 105 |
| | 102 | 13 | 20 | 55 | 190 |

Auto Mechanics -----111

Total Regular Session -----1848

| | | | |
|-----------------------|------------------------------|------|------|
| Summer Session, 1920: | 1. College | 322 | |
| | 2. Normal | 60 | |
| | 3. Rural Life | 13 | |
| | 4. Cotton Classing | 300 | |
| | 5. Auto Mechanics | 31 | |
| | 6. Farmers' Short Course.... | 1251 | 1977 |

Total3825

Less names repeated237

Net enrollment, 1920-213588

SUMMARY OF ENROLLMENT, SESSION 1920-21

BY STATES AND FOREIGN COUNTRIES

| | | | |
|----------------------------|------|-----------------------|---|
| Texas | 1700 | Kansas | 1 |
| Arkansas | 31 | Kentucky | 1 |
| Oklahoma | 30 | Michigan | 1 |
| Louisiana | 21 | New Hampshire | 1 |
| Missouri | 4 | Pennsylvania | 1 |
| Tennessee | 4 | Rhode Island | 1 |
| Alabama | 3 | South Carolina | 1 |
| Mississippi | 3 | Washington | 1 |
| Arizona | 2 | Wisconsin | 1 |
| California | 2 | Wyoming | 1 |
| District of Columbia | 2 | | |
| Illinois | 2 | | |
| New Jersey | 2 | Mexico | 9 |
| New Mexico | 2 | Egypt | 2 |
| New York | 2 | Brazil | 1 |
| Ohio | 2 | China | 1 |
| West Virginia | 2 | Cuba | 1 |
| Colorado | 1 | Czecho-Slovakia | 1 |
| Florida | 1 | India | 1 |
| Georgia | 1 | Japan | 1 |
| Indiana | 1 | Mesopotamia | 1 |
| Iowa | 1 | Peru | 1 |

Total1848

DEGREES AND CERTIFICATES CONFERRED AT THE FORTY-FOURTH ANNUAL COMMENCEMENT

(May 25, 1920)

Master of Science (2)

Joseph Sayers Mogford,
B. S., A. & M. College of Texas, 1916.

Ivan Shiller,
B. S., A. & M. College of Texas, 1918.

Civil Engineer (1)

Edward E. McAdams,
B. S., A. & M. College of Texas, 1911.

Bachelor of Science

In Science (2)

Crook, G. M.

Hudson, H. S.

In Agricultural Education (4)

Bowles, C. E.

Johnson, J. M.

Davis, J. Thomas

Powers, George, L., Jr.

In Agriculture (40)

Alex, A. H.
Alexander, S.
Becker, P. G. Jr.
Bittle, G. M.
Brunnemann, F. C.
Burkes, W. M.
Burns, W. T.
Carter, C. E.
Castillo, C. A.
Chappelle, H. L.
Cheeves, T. A.
Colvin, C. H.
Cook, W. B.
Derrick, W. W.

Edwards, A. I.
Edwards, K. J.
Fahey, M. J.
Frazier, B. H.
Graham, R. C.
Heard, C. E.
Jonas, H. F.
Kennard, H. J.
Lattimore, R. B.
Lebo, M. B.
McQuillen, E. E.
Martin, E. C.
Moore, D. S.

Neyland, A. J.
Nussbaum, C. A.
Oliver, H.
Peteet, G. W.
Shuhart, D. V.
Smith, A. B.
SoRelle, I. F.
Stevens, D. L.
Stevenson, D. A.
Sumner, L. E.
Westcourt, F. W.
Wilson, T. F.
Zegarra, E. C.

In Architecture (1).

Fowler, W. H.

In Chemical Engineering (6).

Ballard, A. L.
Hamilton, M. A.

Landon, R. M.
Taylor, E.

Thrasher, W. B.
Wilson, E. S.

In Civil Engineering (14).

Adkisson, A. W.
Barber, I. W.
Bohn, H. M.
Boulden, C. F.
Denison, J. S.

Glezen, H. N.
Harris, R. A.
Jungman, A. H.
Leon-Ortega, M.
McNew, J. T. L.

Nichols, C. Jr.
Price, P. B.
Randall, A. L.
Todd, C. C. Jr.

In Electrical Engineering (13).

Allen, H. M.
Bernheim, A. G.
Blumberg, R. D.
Carr, V. C.
Cook, L. E.

Cox, W. H.
Granau, E. L.
Harkrider, W. B.
Holik, W. V.

Horger, J. C.
Leidolf, E. J.
McManus, D. S.
Witmer, B. F.

In Mechanical Engineering (7).

Burnett, H. A.
Frazer, A. C.
Kubena, J. J.

Long, L. F.
Potthast, E. B.

Rasmussen, A. A.
Singleton, D. A. Jr.

In Textile Engineering (2).

Davidson, Green A.

Manning, L. R.

Doctor of Veterinary Medicine (4).

Harrison, R. H. Jr.
Hull, J. H.

Murray, F. A.
Von Rosenberg, H. O.

CERTIFICATES IN TWO-YEAR COURSES.**Agriculture (29).**

Albritton, J. A.
 Allen, H. D.
 Andrews, E. C.
 Ball, E. R.
 Barry, W. W.
 Brewer, C. L.
 Bullen, T. K.
 Glass, F. S.
 Graham, R. J.
 Hall, H. L.

Herring, L. M.
 Hill, J. W.
 Karrer, W. H.
 Kuempel, M. F.
 Landers, R. Q.
 Ledbetter, A.
 Logan, R. M.
 McSwain, G. C.
 Mitchell, T. E.
 Powell, P. T.

Robinson, B. B.
 Rosborough, J. F.
 Salazar, C.
 Schiller, M. F.
 Smith, L. R.
 Stiegler, F. G.
 Swayze, J. P.
 Trousdale, J. W.
 Walters, J. T.

Textile Engineering (1).

Murphy, R. A.

Agricultural Engineering (5).

Fischer, R. M.
 Naeter, E.
 Parker, N. R.

Peter, R. A.
 Turner, G. W.

Engineering (4)

Barlow, H. S.
 Hoefle, H. O.

Sample, C. M.
 Williams, T. V.

DEGREES AND CERTIFICATES CONFERRED JANUARY 25, 1921.**BACHELOR OF SCIENCE.****In Agricultural Education (4).**

*Covey, R. S.
 *Dickey, G. L.

Handrick, J. A.
 *Homeyer, W. C.

In Agriculture (3).

Manning, R.

Reed, L. R.

Reynolds, E. E.

In Electrical Engineering (1).

Drake, C. R.

In Mechanical Engineering (1)

Hamilton, W. F.

In Textile Engineering (1).

Cole, C. M.

CERTIFICATE IN TWO-YEAR COURSE**Agriculture (1).**

Beck, E. D.

SUMMARY OF DEGREES CONFERRED

(May 25, 1920 and January 25, 1921).

Advanced Degrees:

| | |
|-------------------------|---|
| Master of Science | 2 |
| Civil Engineer | 1 |

*Completed work for degree August 28, 1920.

Baccalaureate Degrees:

| | |
|---------------------------------------|-----------|
| Bachelor of Science: In Science | 2 |
| In Agricultural Education.. | 8 |
| In Agriculture | 43 |
| In Architecture | 1 |
| In Chemical Engineering .. | 6 |
| In Civil Engineering | 14 |
| In Electrical Engineering .. | 14 |
| In Mechanical Engineering | 8 |
| In Textile Engineering ... | 3 |
| Doctor of Veterinary Medicine..... | 4 |
| | <hr/> |
| | 103 |
| Total | <hr/> 106 |

DISTINGUISHED STUDENTS.

At the end of each session students who have during the year received no term grade below B are announced as "Distinguished."

(Session 1919-20)

Freshman Class

Howell, L. D.
Mayfield, J. C.

Pustejovsky, R. G.
Olsen, C. E.

Weber, C.

Sophomore Class

Carlisle, J. T.
Graham, W. P.

Lynch, W. W.
Nolte, H.

Thomas, C. W.

Junior Class

Covey, R. S.
Dykes, J. C.

Jordan, J. J.
McGee, H. W.

Ragsdale, T. W.

Senior Class

Edwards, K. J.
Frazier, B. H.
Hamilton, M. A.
Kennard, H. J.

McNew, J. T. L.
McQuillen, E. E.
Neyland, A. J.

Randall, A. L.
Shuhart, D. V.
Westcourt, F. W.

TWO-YEAR STUDENTS—First Year.

Schultz, J. F.

MILITARY ORGANIZATION, SESSION 1920-21.

The Corps of Cadets is organized into a regiment of Infantry of three Battalions of two companies each; a band; one battalion of Signal Corps of three companies; one squadron of Cavalry of three troops; one Battalion of Field Artillery of two batteries; one Squadron of Air Service of one flight.

Professor of Military Science and Tactics.

Major L. R. Dougherty, Field Artillery, U. S. A.

Assistant Professors of Military Science and Tactics.

Major W. H. H. Morris, Jr., Infantry, U. S. A.
 Major C. W. Russel, Air Service, U. S. A.
 Captain F. J. deRohan, Infantry, U. S. A.
 Captain W. T. Bals, Cavalry, U. S. A.
 Captain C. D. Horne, Field Artillery, U. S. A.
 Captain A. L. Tuttle, Infantry, U. S. A.
 Captain R. W. Wilson, Field Artillery, U. S. A.
 Captain L. A. Kurtz, Signal Corps, U. S. A.

Surgeon.

Dr. Bartlett U. Sims, Contract-Surgeon, U. S. A.

Assistant Instructors

Warrant Officer George O. Griffin, U. S. A.
 Master Sergeant Frank Rabke, D. E. M. L., U. S. A.
 Sergeant Daniel M. Dwiggin, D. E. M. L., U. S. A.

Military Department Staff

Warrant Officer George M. Gale, U. S. A.
 Master Sergeant John V. King, D. E. M. L., U. S. A.
 Technical Sergeant John C. Hyland, U. S. A., retd.
 First Sergeant Thomas Cody, D. E. M. L., U. S. A.
 Staff Sergeant Joseph Ott, D. E. M. L., U. S. A.
 Sergeant Carroll D. Paul, D. E. M. L., U. S. A.
 Corporal Walter H. DeWitt, D. E. M. L., U. S. A.
 Private first class William L. Davis, D. E. M. L., U. S. A.
 Private first class Robt. H. Headon, D. E. M. L., U. S. A.

FIELD ARTILLERY DETACHMENT**United States Army**

Sergeants:
 Kniffen, Fred
 Madden, Joseph D.
 Redding, Iberia K.
 Corporals:
 Harris, Felix J.
 Rowland, Estill

CAVALRY DETACHMENT**United States Army**

Sergeants:
 Cairns, Alexander E.
 Duke, Robert
 Corporals:
 Bates, Richard O.
 DeWitt, Walter H.

CORPS OF CADETS.

COLONEL BARNES, B. H., (F. A.) Comdg. Corps.
 MAJOR SCUDDER, C. F., (S. C.) Corps Adjt.
 CAPTAIN WARNDORF, C. R., (Inf.) Ordnance Officer.
 MASTER SERGEANT BURNS, L. L., (Inf.) Sergeant Major.

BAND.

Captain Walker, J. A., (Inf.) Comdg.
 Captain Easley, R. K., (F. A.)
 2nd Lieut. Davidson, C. E., (S. C.)
 2nd Lieut. Crippen, W., (Inf.)
 2nd Lieut. Frame, W. D., (S. C.)
 2nd Lieut. King, R., (S. C.)
 2nd Lieut. Northcutt, W. D., (Inf.)
 2nd Lieut. Tuerpe, E. C., (S. C.)
 2nd Lieut. Phillips, V. H., (Inf.)
 First Sergeant Boykin, G. L., (F. A.)
 Staff Sergeant DeLee, H. E., (S. C.) Drum Major.
 Sergeants
 Buchan, F. E., (Inf.)
 Cochran, B. B., (S. C.)
 Parish, T. L., (F. A.)

REGIMENT OF INFANTRY.

REGIMENTAL STAFF

Lieutenant Colonel John D. Cape, Regimental Commander.
 Captain Forrest P. Buie, Regimental Adjutant.
 Captain Frank L. Bertschler, Regimental Operation Officer.
 Captain Charles Blumenthal, Regimental Supply Officer.
 Captain Travis Hall, Regimental Personnel Officer.
 Captain Maynard G. Snell, Regimental Information Officer.
 Captain John P. Wagstaff, Regimental Intelligence Officer.

Regimental Non Commissioned Staff.

Master Sergeant, Cretien, Paul D., Regimental Sgt. Major.
 Staff Sergeant, Collins, Leon L., Color Sergeant, National Colors.
 Staff Sergeant, Strange, John H. Color Sergeant, Howell Trophy Flag.

First Battalion.

Major Ray C. Mowery, Battalion Commander.
 First Lieutenant, Attebery, W. H., Battalion Adjutant.
 Staff Sergeant, Alsmeyer, Henry L., Battalion Sgt. Major.

Company A

Captain:
 Edwards, Clyde H.
 First Lieutenant:
 Luker, Cyril
 Second Lieutenants:
 Alsmeyer, Louis H.
 Hatley, Adolph E.
 First Sergeant:
 Carruthers, Robert L.
 Sergeants:
 Alexander, Ralph K.
 Davidson, Joseph A.
 Dreeke, Harold L.
 Faure, Leonard L.
 Fisher, Chester F.
 Hodges, Lester B.
 Holmgreen, Elmer N.
 Hurley, Charles W.
 Jordan, William R.
 Rea, Homer E.
 Reynaud, Oscar F.
 Reynolds, James M.
 Smyth, Leon L.
 Weir, W. C.
 Wendt, Frank T.
 Willard, Herbert B.
 Winn, William E.
 Corporals:
 Cunningham, John F.
 Carmichael, Reese H.
 Dunn, Herman
 Easton, Robert B.
 LeSturgeon, Edward G.
 Meriwether, Henry R.
 Neal, George T.
 Olsen, Carl E.
 Sumner, Ben F.

Company B.

Captain:
 Matthews, Harvie R.
 First Lieutenant:
 Denison, George A.
 Second Lieutenants:
 Giesecke, John O.
 Sanders, Joshua S.
 First Sergeant:
 Chambers, Chester H.
 Sergeants:
 Beesley, Ben B.
 Fahey, Gerald C.
 Finney, Clarence J.
 Jenkins, B. L.
 Jinks, Leon C.
 Love, W. M.
 McCarty, T. J.
 Morris, Asbury B.
 Patton, William P.
 Porter, John B.
 Schaedel, Frank W.
 Corporals:
 Armistead, George Jr.
 Dick, John M. Jr.
 Heartfield, Richard C.
 Hilton, N. H.
 Love, Benjamin S.
 Patton, Joseph A.
 Roberts, Berry V.
 Striekert, Roy R.
 Wilson, Horace E.

Second Battalion.

Major Cranford C. B. Warden, Battalion Commander.
 First Lieutenant Thomas P. Potts, Battalion Adjutant.
 Staff Sergeant, Landram, Addison B., Battalion Sergeant Major.

Company C.

Captain:
 Charles W. Sherrill
 First Lieutenant:
 Reid, Joseph J.
 Second Lieutenants:
 Maxcine J. Japour.
 William D. Northcutt
 Alfred T. Underwood.

Company D.

Captain:
 Clinton, Daniel D.
 First Lieutenants:
 Hardin L. Atkins
 C. R. Smith
 Second Lieutenants:
 Robert E. Price.
 Ralph R. Thomas.

First Sergeant.

Hensarling, Theron

Sergeants:

Boriskie, Frank W.
 Foster, Thomas O.
 Fouraker, Robert W.
 Goss, Harvey T.
 Hannaford, William E.
 Harris, Grady W.
 Knox, Edward D.
 Malone, Morris L.
 Masuda, Barook J.
 Payne, William E.
 Pinson, Harry T.
 Porter, James W.
 Real, Casper

Corporals:

Bradley, Calvin L.
 Castle, William G.
 Gatlin, Eugene M.
 Rogers, Charles C.
 Schulze, Ferdinand
 Sheffield, Jno. M.
 Weber, Carl
 Wilson, Carl

First Sergeant:

Faulkner, Richard C.

Sergeants:

Anschicks, Carl S.
 Armstrong, Paul W.
 Flinn, Fontaine
 Foster, Willet S.
 Friedlander, Louis H.
 Garnett, Edward W.
 Key, Davis L.
 Knapp, John A.
 Lasseter, William E.
 Menke, Walter M.
 Moore, John C.
 Neeley, Marion J.
 Patillo, Robert E.
 Severn, John M.

Corporals:

Burmeister, Gustave
 Dabney, Virgil C.
 Downs, Frederick H.
 Fenstermaker, Arthur
 Field, William W.
 Jones, Newton W.
 Jordan, Vernan
 Shifflet, Lacy B.
 Taylor, Edward M.
 Wilder, John W.

Third Battalion.

Major Henry B. Horn, Battalion Commander.

First Lieutenant, Willard W. Cox, Battalion Adjutant.

Staff Sergeant, Franke, P. C., Battalion Sergeant Major.

Company E.**Captain:**

Lewis, T. B.

First Lieutenant:**Second Lieutenants:**

Marion L. Gaddis.
 Frank E. Smith.
 Jordan, Vernon
 Stiles, R. W.

Sergeants:

Anderson, Howell R.
 Byron, Leonard A.
 Crawford, James M.
 Frazier, Oscar H.
 Frede, Leo H.
 Harrington, Marion T.
 Johnson, Albert S.
 Leiper, Sam E.
 Miles, William J.
 Mims, Morrell P.
 Brown, Joe C.
 Thomas, Claude W.
 Tompkins, James F.
 Vaughn, Robert G.
 Webster, Daniel H.
 Willis, Claude C.

Corporals:

Adams, Madison H.
 Buckner, Floyd K.
 Crosnoe, Clyde C.
 Marsh, William E.
 Miller, Mollie E.
 Mogford, Alfred C.
 Phillips, Charles C.
 Prewit, James D.
 Smith, Clyde T.

Company F.**Captain:**

Ward, E. C.

First Lieutenant:

Kenneth L. Kirkland.

Second Lieutenants:

Richard H. Maxwell.
 Ernest Mortenson.
 Forrest L. Park.
 Theron L. Ragsdale.

First Sergeant:

Meitzen, Robert J.

Sergeants:

Clarke, Cecil E.
 Crane, Clyde C.
 Dinwiddie, Otto D.
 Hale, Fred
 Hamilton, William B.
 Koehler, Egon
 Lott, Otto C.
 Tippit, Robert R.
 Wheeldon, Harry
 Wright, Clarence J.
 Yater, John A.

Corporals:

Brown, Ben F.
 Cleveland, Raymond
 Mayfield, John C.
 Mitchell, Hugh C.
 Saunders, John L.
 Short, Leslie E.
 Spence, Stanley L.
 Van Court, Mack L.

BATTALION OF FIELD ARTILLERY.

Major

Walker, E. M.

Commander.

Captain

Willis, W. S.

Adjutant.

Captain

Burke, L. J.

Operations Officer.

Staff Sergeant

Martin, J. W.

Sergeant Major.

Battalion Field Artillery.**Battery A.**

Captain Work, M. M.
 First Lieutenant Dieterich, A. F.
 First Lieutenant Huff, R. P.
 Second Lieutenant Bizzell, W. S.
 Second Lieutenant Carlisle, J. T.
 Second Lieutenant Davis, R. F.
 First Sergeant Waltrip, O. H.

Sergeants:

Baskett, J. L.
 Beazley, W. H.
 Bimmerman, P. H.
 Hanley, E. W. Jr.
 Howell, E. J.
 Keith, A. C.
 Luckett, C. A.
 Mayo, J. W.
 Niebuhr, W. A.
 Silvus, W. E.
 Simmons, W. E.
 Smith, L. A. A.
 Smith, M. V. F.
 Taylor, C. L.
 Thompson, O. C.
 Van Tuyl, A. J.
 Zachry, H. B.

Corporals:

Hayes, H. F.
 Jolliff, L. G.
 Meredith, J. H. Jr.
 Moore, E. H.
 Phillips, R.
 Stiles, W. A.
 Everett, W. J.

Battery B.

Captain Roper, W. N.
 First Lieutenant Cruickshank, J. P.
 First Lieutenant Thomas, R. B.
 Second Lieutenant Lynch, W. W.
 Second Lieutenant Carson, C. W.
 First Sergeant Jones, J. H.

Sergeants:

Andrews, W. H. B.
 Christopher, U. E.
 Cloer, V. U.
 Crites, E. A.
 Fay, O. J.
 Freeman, E. M.
 Gurwitz, J. A.
 Henry, M. B.
 Knapp, W. L.
 McNelly, C. B.
 Opryshek, K.
 Orr, J. A.
 Redditt, T. G.
 Scales, R. H.
 Spreen, H. F. Jr.
 Steele, J.
 Taylor, F. G.

Corporals:

Parker, W. P.
 Haney, O. B.
 Hope, W. B.
 Jernigan, J. A.
 McElroy, H. M.
 Mosteller, W.
 Nimitz, E. H.
 Stallings, L.
 Tiner, W. D.

SQUADRON OF CAVALRY.

| | | |
|----------------|---------------|-----------------|
| Major | King, W. C. | Commander. |
| First Lieut. | Brinkman, E. | Adjutant. |
| Staff Sergeant | Currie, J. F. | Sergeant Major. |

Troop A.

Captain Forbes, A. L.
 Second Lieutenant Taylor, W. H.
 First Sergeant Ballard, W. L.

Sergeants:

Mulvey, W. B.
 Williams, W. H.
 Bridges, R. E.
 Dwyer, P. A.
 Dockum, O. L.
 Hartung, G. H.
 Cockrell, T. J.

Corporals:

Schultz, J. F.
 Land, V. H.
 Wood, L. H.
 Davis, B. C.
 Best, R. A.
 Howze, A. H.
 Currie, V. M.
 Gadberrry, H.

Troop B

Captain Martin, G. W.
 First Lieutenant Thompson, H. W.
 Second Lieutenant Houston, F. N.
 First Sergeant Giles, D. D.

Sergeants:

Furneaux, W. F.
 Burr, J. S.
 March, J. P.
 Hall, R. W.
 Doherty, W. T.
 Fuchs, J.
 Sprague, C. T.

Corporals:

DeLaney, J. W.
 Blount, W. G.
 Brandt, E. D.
 Young, W. K.
 Beazley, T. H.
 McConnell, M.
 Aubin, C. T.
 Hail, W. D.

SIGNAL CORPS BATTALION

Major, Legg, A. S., Comdg.
 2nd. Lieutenant, Hugon, L. R., Adjutant.
 Captain, Harding, A. G., Operations Officer.
 1st Lieutenant, Miller, G. B., Jr., Morale Officer.
 Staff Sergeant, Schlather, E. G., Sergeant Major.

Company A.

Captain
1st Lieutenant
2nd Lieutenant
2nd Lieutenant
Master Sergeant
1st Sergeant
Staff Sergeants:

Sergeant
Corporals:

Thomas, D. V.
Woods, J. E.
Davidson, G. A.
Drummett, P. W.
Steele, R. B.
Dougherty, H. Jr.
Webber, A. T.
Schmidt, H. E.
Schaefer, Q. B.
Billingsley, B. C.
Wyly, J. J. Jr.
Beale, R. L.
Kimbrough, M. W.
Miers, W. S.
Skains, W. T.
Walker, W. W.

Company B.

Captain
1st Lieutenant
2nd Lieutenant
Master Sergeant
1st Sergeant
Staff Sergeants:

Sergeants

Corporals:

Vinther, P. N.
Robinson, E. L.
Murphree, D. D.
Hollowell, G. A.
Dillingham, H. C.
Fiser, W. C.
Rogers, A. C.
Naschke, B. B.
Fason, E. B.
Baur, L. W. A.
Matthes, C. L.
Stamps, W. T.
Ashburn, R. F.
Gee, C. C.
Hammett, H. C.
Keeton, T. E.
Lamkin, J. B.
Mowlam, W. V.

Company C

Captain
1st Lieutenant
2nd Lieutenant
Master Sergeants
1st Sergeant
Staff Sergeants

Sergeants

Corporals

Pierce, J. A.
Fitzgerald, J. K. Jr.
Finn, D. J.
Simon, S. Jr.
Saunders, H. M.
Golden, C. H.
Clement, G. K.
Clanton, R. W.
Weisbrich, R. A.
Brummett, B. B.
Crawford, C. H.
Simmons, F. C.
Trant, J. S.
Willard, T. B.

AIR SERVICE**CAPTAIN**

Gardner, J. E.

FIRST LIEUTENANT

Singleton, N.

FIRST SERGEANT

Parke, A. L.

SERGEANTS

Dahlberg, G. A.

Edgar, J. H.

O'Quinn, G.

Proehl, O. A.

CORPORALS

Hailey, C. H.

Cordell, B. E.

Close, C. N.

Boyle, B. H.

Walker, R. E.

Chapman, S. P.

Reese, J. T.

Hamilton, C. H.

Baker, T. H.

Smith, W. S.

Cushing, E. C.

Gray, B. F.

Adams, H. C.

Burns, P. W.

HOWELL TROPHY.

The Howell Trophy is a Texas Flag presented to the College in 1903 by Mr. W. S. Howell of Bryan, Texas. A competitive drill is held each year, during Commencement, to determine the best drilled company. This company is designated the TROPHY COMPANY and carries the flag during the following session. It is authorized to elect a Trophy Sergeant who is the Color Bearer.

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| | |
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| George P. Knox, San Antonio | Second Vice-President |
| R. T. Shields, Dallas | Third Vice-President |
| W. B. Cook, College Station | Secretary-Treasurer |

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J. Webb Howell, Bryan

A. L. Randall, Amarillo

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BULLETIN
OF THE
AGRICULTURAL AND MECHANICAL
COLLEGE OF TEXAS

THIRD SERIES, VOL. 8.

JUNE 1, 1922.

No. 6.



FORTY-SIXTH
ANNUAL CATALOGUE

SESSION 1921-22

ANNOUNCEMENTS FOR 1922-23

Published monthly by the Agricultural and Mechanical College of Texas.

Entered as second class matter August 7, 1913, at the postoffice at College Station, Texas, under the Act of August 24, 1912.

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| 1922 | | | | | | | 1923 | | | | | | | 1924 | | | | | | |
|-----------|----|----|----|----|----|----|----------|----|----|----|----|----|----|-----------|----|----|----|----|----|----|
| JULY | | | | | | | JANUARY | | | | | | | JULY | | | | | | |
| S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S |
| .. | .. | .. | .. | .. | .. | 1 | .. | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 | 28 | 29 | 30 | 31 | .. | .. | .. | 29 | 30 | 31 | .. | .. | .. | .. |
| 30 | 31 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| AUGUST | | | | | | | FEBRUARY | | | | | | | AUGUST | | | | | | |
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| 13 | 14 | 15 | 16 | 17 | 18 | 19 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
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| SEPTEMBER | | | | | | | MARCH | | | | | | | SEPTEMBER | | | | | | |
| S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S |
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| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 30 | .. | .. | .. | .. | .. | .. |
| OCTOBER | | | | | | | APRIL | | | | | | | OCTOBER | | | | | | |
| S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | .. | 1 | 2 | 3 | 4 | 5 | 6 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
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| NOVEMBER | | | | | | | MAY | | | | | | | NOVEMBER | | | | | | |
| S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S |
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| 5 | 6 | 7 | 8 | 9 | 10 | 11 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 26 | 27 | 28 | 29 | 30 | .. | .. | 27 | 28 | 29 | 30 | 31 | .. | .. | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| DECEMBER | | | | | | | JUNE | | | | | | | DECEMBER | | | | | | |
| S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S |
| .. | .. | .. | .. | .. | 1 | 2 | .. | .. | .. | .. | .. | 1 | 2 | .. | .. | 1 | 2 | 3 | 4 | 5 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 31 | .. | .. | .. | .. | .. | .. | 31 | .. | .. | .. | .. | .. | .. | 30 | 31 | .. | .. | .. | .. | .. |

COLLEGE CALENDAR

1922.

Entrance examinations, September 14, 15, 16.
First term begins Wednesday, September 20.
Registration of new students, September 18, 19.
Registration of old students, September 20, 21.
Recitations begin September 22, 8 a. m.
Opening exercises, September 22, 10 a. m.
November 11, observance of Victory Day.
Thanksgiving Day, a holiday.
Christmas holidays begin Thursday, December 21, at noon.

1923.

Christmas holidays end Tuesday, January 2, at reveille.
Recitations resumed, Tuesday, January 2, 8 a. m.
First term ends Friday, February 2.
Second term begins Saturday, February 3.
Registration for second term, January 31, February 1, 2, 3.
Washington's Birthday, February 22, a holiday.
Observance of Texas Independence Day, March 2.
San Jacinto Day, April 21, a holiday.
Commencement sermon, Sunday, June 3.
Exhibition of departments and of work of Students, Monday, June 4.
Commencement Day, Tuesday, June 5.

PART I

OFFICERS OF ADMINISTRATION AND OF INSTRUCTION

BOARD OF DIRECTORS

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F. M. LAW, VICE-PRESIDENT.

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T. N. JONES.....*Tyler.*
JOHN T. DICKSON.....*Paris.*

TERMS EXPIRE 1925

L. J. HART.....*San Antonio.*
R. L. YOUNG.....*Houston.*
W. S. ROWLAND.....*Temple.*

TERMS EXPIRE 1927

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S. G. BAILEY, SECRETARY.

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Director of the Engineering Experiment Station.

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State Forester.

M. C. TANQUARY, A. M., Ph. D.,
State Entomologist.

R. B. EHLINGER, M. D.,
Surgeon.

WALTER WIPPRECHT, B. S. A.,
Business Manager.

W. W. KRAFT, B. S.,
Superintendent of Buildings and College Utilities.

B. SBISA,
Advisory Supervisor of Subsistence.

W. A. DUNCAN,
Supervisor of Subsistence.

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CHARLES PURYEAR, M. A., C. E., LL. D.,
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Professor of Veterinary Anatomy.

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Professor of Electrical Engineering.

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Professor of Economics.

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Dean of the School of Engineering.
Professor of Civil Engineering.

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- JOHN T. EGAN, *District Agent.*
- C. M. EVANS, *Agent in Dairying.*
- S. C. EVANS, *Boys' Club Agent.*
- M. E. HAYS, *Horticulturist.*
- R. R. LANCASTER, *Rural Organizer.*
- W. T. MAGEE, *Animal Husbandman.*
- E. A. MILLER, *Sweet Potato Specialist.*
- G. W. ORMS, *District Agent.*
- R. R. REPPERT, *Entomologist.*
- A. K. SHORT, *Agronomist.*
- A. L. SMITH, *District Agent.*
- J. E. STANFORD, *District Agent.*
- J. LYNN THOMAS, *Dairy Husbandman.*
- T. B. WOOD, *District Agent.*
- J. W. PATTON, *Poultry Husbandman.*

Home Demonstration Work:

- MISS M. HELEN HIGGINS, *State Home Demonstration Agent.*
- MRS. DORA R. BARNES, *Clothing Specialist.*
- MRS. MAGGIE W. BARRY, *Special Agent.*
- MISS BENNIE CAMPBELL, *District Home Demonstration Agent.*
- MRS. KATE LEE DAUGHERTY, *District Home Demonstration Agent.*
- MISS BESS EDWARDS, *District Home Demonstration Agent.*
- MISS MYRTLE MURRAY, *Poultry Specialist.*
- MISS MILDRED HORTON, *District Home Demonstration Agent.*
- MISS MARY JESSIE STONE, *District Home Demonstration Agent.*
- MISS HELEN SWIFT, *District Home Demonstration Agent.*
- MISS KITTIE D. WASHINGTON, *Specialist Home Economics (Food).*

Negro Extension Work:

- C. H. WALLER, *Leader Negro Extension Work.*
- H. S. ESTELLE, *District Agent.*
- R. H. HINES, *District Agent.*
- MRS. M. E. V. HUNTER, *District Agent.*

ADMINISTRATION OF STATE LAWS.

Feed Control Law.

Administered by the Director of the Agricultural Experiment Station.

Fertilizer Law.

G. S. FRAPS, Ph. D.,

State Chemist.

S. E. ASBURY, M. S.,

Assistant State Chemist.

H. B. SMITH,

Inspector.

Foul Brood Law.

M. C. TANQUARY, Ph. D.

State Entomologist.

Forestry Law.

E. O. SIECKE, B. A., B. S.,

State Forester.

PAGE S. BUNKER, B. S.,

Agent, Forestry.

R. F. DREITZLER, B. S.,

Assistant State Forester.

OTHER OFFICERS OF THE COLLEGE.

S. G. BAILEY,
Executive Secretary to the President.
Secretary to the Board of Directors.

L. G. JONES, M. S.,
Student Adviser, Secretary, Young Men's Christian Association.

FRANK O. MARTIN,
Publicity Secretary.

D. X. BIBLE,
Instructor and Co-ordinator of Physical Training.

JAMES SULLIVAN,
Director of Physical Training.

R. K. CHATHAM,
Manager, Cadet Exchange Store.

J. R. GULLEDGE, B. A.,
Assistant Librarian.

MRS. W. H. THOMAS,
Assistant Librarian.

MRS. F. H. FISH,
Assistant Librarian.

J. R. McKEE,
Student Adviser.

W. B. COOK, B. S.,
Secretary, Association of Former Students.

H. A. WIDDECKE,
Accountant.

CECIL R. ESTILL,
Cashier.

FIRST SERGEANT GEORGE SMART, U. S. Army, Retired,
Assistant Commandant.

JULIAN R. WRIGHT,
Assistant Commandant.

PART II
GENERAL INFORMATION

GENERAL INFORMATION.

LOCATION.

The College is situated at College Station, in the county of Brazos, and is 350 feet above sea level. The Houston & Texas Central and the International & Great Northern Railroads run through the grounds, daily trains stopping at the stations, about 650 yards from the Academic Building. Students and visitors are advised to take train arriving in daytime.

College Station is a money order postoffice. Letters intended for persons at the College should not be directed to Bryan. At College Station there are telegraph and express offices.

HISTORICAL SKETCH.

The Agricultural and Mechanical College of Texas, like the land grant institutions in other States of the Union, owes its origin to an act of Congress, approved July 2, 1862. This act donated public lands to the several States and Territories which might provide colleges for the benefit of agriculture and the mechanic arts, and directed the Secretary of the Interior to issue land scrip to the States in which there was not the requisite quantity of public land. The act further directed that the money derived from this source should constitute a perpetual fund, the principal of which should remain forever undiminished, and the interest of which should be inviolably appropriated by each State to the endowment, support and maintenance of at least one technological college, whose leading object should be, without excluding other scientific and classical studies, and including military tactics, to teach branches of learning pertaining to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life. It was further provided that the provisions of the act should be formally accepted by the State Legislature. By joint resolution approved November 1, 1866, the Legislature of Texas accepted the provisions of the congressional legislation, and accordingly there was issued to Texas scrip for 180,000 acres of public land, which was sold for \$174,000. This amount was invested in Texas 7 per cent gold frontier bonds. At the time of the opening of the College there was an addition to the fund of accrued interest amounting to \$35,000, which was invested in 6 per cent State bonds.

In an act approved April 17, 1871, the Legislature provided for the establishment of the Agricultural and Mechanical College. A commission to locate the College was created by the Legislature. After careful investigation, the Commission accepted the proposition of the

citizens of Brazos county, and located the institution on a tract of 2416 acres of land in that county. Finally, the constitutional convention of 1876 constituted the College a branch of the University of Texas, and, in accordance with the terms of the Federal legislation, designated it as an institution for instruction in agriculture and the mechanic arts and the natural sciences connected therewith. The convention further provided that the Legislature should have the right to levy taxes for the maintenance and support of the Agricultural and Mechanical College.

The College was formally opened for the reception of students October 4, 1876. By means of financial aid voted by Congress and of appropriations made by the State Legislature, there has been developed a considerable foundation at the College for instruction, for investigation, and for extension.

GOVERNMENT.

The government of the College is vested in a board of nine directors, appointed by the Governor for terms of six years.

ADMINISTRATION.

The immediate regulation and direction of the affairs of the College are delegated by the Board of Directors to the President and the Faculty.

ORGANIZATION.

The College comprises the Schools of Agriculture, of Engineering, of Veterinary Medicine; the Agricultural Experiment Station, the Engineering Experiment Station, the Extension Service, and the Summer Session.

DEPARTMENTS.

The College has now in operation thirty-one departments of instruction, which are listed under the heading "Courses of Instruction by Departments."

DISCIPLINE.

Discipline is administered by the Commandant. The regulations are designed with the view of securing consistent conformity to the following

General Requirement.—Every student is expected at all times to conform to the ordinary rules of gentlemanly conduct; to be truthful; to respect the rights of others; to be punctual and regular in attendance upon all required exercises; to apply himself diligently to his studies; and to have due regard for the preservation of College property.

Students are not allowed to leave the College grounds, either to visit neighboring towns or their homes, without first securing a furlough from the Commandant. When a student overstays a furlough his name may be dropped from the rolls.

For improper conduct, or failure to keep up with his studies, a student may at any time be required to withdraw from the College.

HAZING.

Hazing is forbidden by the law of the State and by College regulations. Every student, upon re-entering the College after his first year, is required to sign a pledge that he will not engage in hazing while he is a student of the College. These pledges are to be witnessed by the parent or guardian of the student.

MILITARY ORGANIZATION.

Eligibility for Different Branches of the Service.—All students entering the College as Freshmen are eligible to enroll in the Infantry, Field Artillery, or Cavalry. All Freshmen enrolling for the four-year electrical engineering course or who have had the equivalent training prior to entering College are eligible to enroll in the Signal Corps unit. All Freshmen enrolling for a four-year course in civil engineering, mechanical engineering, chemical engineering, electrical engineering are eligible for enrollment in the Air Service provided they submit at date of registration a letter signed by parent or guardian authorizing their enrollment in the Air Service unit.

All military instruction is under the immediate charge of the Professor of Military Science and Tactics. The officers of the Cadet Corps are selected from the Senior class, non-commissioned officers from the Junior and Sophomore classes.

RESERVE OFFICERS' TRAINING CORPS.

The act of Congress of June 3, 1916, known as the National Defense Act, provides for the establishment in civil educational institutions of units of the Reserve Officers' Training Corps (R. O. T. C.). The object of the Reserve Officers' Training Corps is best stated by the War Department in its Special Regulations No. 44, which govern the R. O. T. C., and is as follows:

Object.—The primary object of the Reserve Officers' Training Corps is to provide systematic military training at civil educational institutions as reserve officers in the military forces of the United States. It is intended to attain this object during the time that students are pursuing their general or professional studies with the least practicable interference with their civil careers, by employing methods designed to fit men physically, mentally, and morally for pursuits of peace as well as pursuits of war. It is believed that such military training will aid greatly in the development of better citizens. It should be the aim of educational institutions to maintain one or more units of the Reserve Officers' Training Corps in order that in time of national emergency there may be instantly available a large number of educated men

physically efficient and trained in the fundamentals of military science and tactics and fitted to lead intelligently the units of the armies upon which the safety of the country will depend. The extent to which this object is accomplished will be the measure of the success of the Reserve Officers' Training Corps."

Under the provisions of the National Defense Act, the President of the United States has authorized the organization of five units of the R. O. T. C. at this College, namely: Infantry, Field Artillery, Aviation, Signal Corps and Cavalry. All students of this institution who are physically fit and who have not had a minimum of six months in the Army, Navy or Marine Corps during the past emergency, are required to take the Basic Course in the R. O. T. C., which includes the first two years. Mature men who enter with advanced standing in a considerable number of subjects may, for reasons satisfactory to the Faculty, be excused from military duty. This course when entered upon becomes prerequisite to graduation and carries with it credits corresponding to other class work.

BASIC COURSE.

Obligations.—Members of the Basic Course are not obligated further than to pursue the course diligently and properly to care for equipment and apparatus used in the institution.

Benefits.—Each student will be furnished commutation of uniform, which at the present time amounts to \$30 the first year and \$6 the second year, provided that amount has been expended for uniform.

ADVANCED COURSE.

In order to continue in the R. O. T. C. for the advanced course, i. e., during the Junior and Senior years, a student must be selected by the President of the institution and the Professor of Military Science and Tactics, and he must obligate himself to attend the advanced course camp as prescribed by the Secretary of War. This course, including the prescribed camp training, when entered upon, becomes a prerequisite to graduation.

Obligations.—The student obligates himself:

- a. To pursue the course while at the College.
- b. To attend the advanced course camp.
- c. To take proper care of the equipment furnished him.
- d. He is expected, though not bound, to accept a commission in the Officers' Reserve Corps if offered one, unless prevented by unusual conditions.

Benefits.—a. He will receive commutation of uniforms at the rate of \$30 for the first year and \$6 for the second year.

b. He will be furnished subsistence now allowed at 40 cents per day from the beginning of his Junior year to the end of his Senior year,

excepting during camp when he is given rations in kind. Commutations of rations will not be paid for more than two years.

e. While at camp he will receive \$1 per day and will also receive transportation to and from camp.

d. After graduation he may be eligible for appointment as officer in the Reserve Corps.

e. Honor graduates are eligible for appointment as second lieutenant, U. S. Army, with only the physical examination necessary.

f. Graduates may be given opportunities to take competitive examinations for Regular Army commission.

WITHDRAWAL FROM R. O. T. C.

For satisfactory reasons, upon recommendation of the Professor of Military Science and Tactics, the authorities of the institution may discharge members of the R. O. T. C. from such corps and from the necessity of completing the course in military training as a prerequisite to graduation.

METHOD AND SCOPE OF INSTRUCTION.

In all courses the fundamental idea is education in practical science. With this idea in view, instruction is given in English, history, economics, mathematics, physics, chemistry, and in other studies which lie at the foundation of a sound education and furnish the best preparation for the more technical studies of the several courses. Instruction is given by the use of text-books, by lectures and recitations; also by practice in the shop, field, laboratory, and drawing room. These practical exercises have a high educational value, and serve a useful purpose in fixing and rendering clear the ideas presented in the class room; they have also a practical value; for they are, in great measure, examples of just such problems as the graduate will encounter in the pursuit of his calling. For convenience of instruction, the classes are subdivided into sections of suitable size. Unannounced written exercises and tests are given at the discretion of instructors. Written examinations are held at the end of each term.

REHABILITATION OF DISABLED SOLDIERS.

Special elementary courses in various phases of agriculture, poultry husbandry, bee keeping, highway work and cotton classing have been organized for disabled soldiers, being trained under the supervision of the Federal Board for Vocational Education.

These courses are, in general, similar to courses provided for other students but are modified to provide a definite objective for the men in training.

NON-RESIDENT LECTURERS.

At intervals throughout the session, men who have attained prominence in some branch of agriculture or engineering or in other lines are invited to address the students with the view of enabling them to see more closely the relation between their college instruction and the work they will be called upon to do after they enter upon their professional careers.

TRIPS OF INSPECTION.

At suitable times during the session trips of inspection, under the direction of some member of the teaching staff, are made to points of special interest. These trips have a high instructional value, and students of the upper classes are encouraged, though not required, to take them.

ELECTIVE STUDIES.

Elective studies are to be chosen by the student under the advice and direction of a member of the Faculty designated for the purpose, and subject to schedule. The choice of electives for any year must be made by April 15 of the preceding year. Those who do not comply with the requirements in regard to the choice of electives are subject to an assessment of \$1.00. The right is reserved to withdraw any course not required for graduation, if it should be chosen by fewer than five students.

ABSENCES.

When a student is absent from recitation a considerable number of times, his absences are taken into account in making up his term grade, unless the work missed is satisfactorily made up before the time set for the examination.

In any theory subject if a student's absences, when not due to sickness or to military duty, exceed one-eighth of the number of recitations scheduled for the subject, his daily average in that subject will not be above 65.

FEE FOR CHANGING COURSES OR TAKING UP NEW SUBJECTS.

For changing from one course to another at any time after the beginning of the term there will be a fee of \$3. For taking up a new subject later than two weeks after the beginning of a term there will be a fee of \$1.

REPORTS.

In order to keep parents systematically informed concerning the progress of their sons, reports, showing class standing and record of conduct, are sent out from the Dean's office at the end of each term. A preliminary report is sent out soon after December 1.

HEALTH.

The buildings of the College are situated on the crest of a wide divide, with sufficient slope in every direction to insure proper drainage. The health of the student body, as shown by the daily records of the institution, is all that could be expected at any location in the State.

The work of sanitation is carried on throughout the entire year, with especial reference to the eradication of mosquitoes, flies, and other disease-bearing agencies.

Drinking water is supplied by wells varying in depth from 300 feet to 1300 feet.

The barracks are inspected daily, and are kept neat and clean throughout. The rooms are well lighted and comfortable.

Drill, shop and field practice, work and outdoor athletic sports furnish sufficient and varied exercise and contribute very much to the maintenance of health and proper physical development.

There is no endemic disease at the College; most of the sickness is the result of indiscretion on the part of the student or is due to the introduction of some mild epidemic disease, such as measles or mumps.

ATHLETICS.

The usual forms of athletic sports are encouraged. The College is a member of the Southwest Athletic Conference. The general rules of eligibility of this organization have been adopted by the Faculty. The Faculty Committee on Athletics is entrusted with the general oversight of athletics.

BAND.

An attractive feature is a regularly organized cadet band. Under the direction of a leader employed by the College, it furnishes music for occasions of social and military importance, gives open-air concerts in season, leads the regiment in marching to dinner, and plays at dress parade.

RELIGIOUS AND MORAL CULTURE.

There is religious service in the chapel every Sunday for the corps of cadets and the residents of the campus. A Sunday school for Bible study, attendance at which is voluntary, affords additional help in the way of ethical training. Every effort is made through lecture and personal example to develop and protect good morals in the young men attending the institution.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

The Young Men's Christian Association occupies a handsome building in which ample provision is made for the meetings of the Association, for Bible study, for social gatherings, and for games. In the basement there is a well appointed swimming pool.

THE LIBRARY.

The Library contains approximately 20,000 volumes, including between 2000 and 2500 bound public documents, and exclusive of the files of the Federal and State Agricultural bulletins. While the Library has hitherto been modeled chiefly along reference lines a very good reading Library has now been accumulated, and the careful selection of new books keeps the collection abreast of contemporary thought. With the exception of books of general reference, current periodicals, and books temporarily reserved by certain departments for required reading all books are loaned for home use for a period of two weeks, with the privilege of renewal for the same length of time.

The Library receives one hundred and seventy-five standard magazines, reviews and technical journals, besides the leading newspapers of the State, and some journals of national importance. Files are kept of some of the most important of these periodicals.

The Library is a United States designated depository and receives copies of all Federal publications. A card index is maintained of all publications of the United States Department of Agriculture and of the State Experiment Stations.

The Library is open on week days and holidays from 8 a. m. to 12 m., from 1 p. m. to 5 p. m., and from 7 p. m. to 10 p. m. The Sunday hours are from 2 to 5 p. m.

PUBLICATIONS.

The following publications are issued by the College:

The Bulletin of the Agricultural and Mechanical College of Texas.—This is a monthly publication which includes the bulletins of the Texas Engineering Experiment Station, the Catalogue of the College, and the announcement of the Summer Session.

The Daily Bulletin.—This is a small sheet issued daily during the regular session, which carries official notices and other announcements.

Bulletins of the Agricultural Experiment Station.—These bulletins are issued from time to time and contain reports of the results of the investigations of the Station.

The Texas Aggie.—The object of this publication is to keep the alumni informed as to the progress and activities of the College.

Extension Service Bulletins.—The Extension Service publishes from time to time bulletins on subjects of popular interest in the fields of agriculture and home economics.

In addition, there are issued twice a month an *Extension Service News Letter* of seasonal advice, and numerous circulars from time to time covering both matters of general agricultural interest and matters of unexpected development.

Student Publications.—The students of the College publish *The*

Battalion, a weekly, devoted to student activities, and interests. The Senior class publishes an annual, *The Longhorn*.

The Young Men's Christian Association publishes at the opening of the session a *Handbook* giving information of value particularly to new students.

EXPULSIONS.

At a joint session of the Board of Regents of the University of Texas and the Board of Directors of the Agricultural and Mechanical College, held at College Station, Texas, from June 30 to July 1, 1896, the following order was made:

"It is ordered that hereafter, when any student shall be dismissed or expelled from either of the branches of the University of Texas on account of any immoral or other conduct which shall render him an unfit character to be matriculated in any of such branches, it shall thereupon be the duty of the branch so expelling or dismissing such student to immediately notify the other branches of their action, whereupon such other branches shall refuse to receive such student for matriculation, or even for examination, should he apply therefor, until the branch which has so expelled or dismissed him has rescinded or reconsidered its former action, and recommended such student for admission into such other branch at which he may apply."

GRADUATION.

A diploma of the College, with the degree corresponding to the course of study pursued, will be granted students who satisfactorily complete one of the regular courses.

For students entering during the session 1922-23 and thereafter, the grade point system will be in effect. Under this system one of the requirements for graduation is that the student must earn each year a specified minimum number of grade points. To do this it will be necessary for him to get a grade above C in approximately one-half of his studies.

No degree will be conferred without a residence of at least one year at the College. The diploma fee is \$7.50.

The fee for certificates in two-year courses is \$1.00.

HONORS.

At the end of each session students who have during the year received no term grade below B are announced as "Distinguished."

CADET EXCHANGE—BOOKS AND OTHER SUPPLIES.

The College runs an exchange store for the purpose of supplying necessary articles to students at the lowest possible cost. The store carries in stock, text-books, stationery, drawing instruments, regulation articles of the uniform, toilet articles, etc. These goods are sold at prices just sufficient to cover cost and operating expenses.

STUDENT LABOR.

The Legislature provides a fund by which a limited number of industrious young men may defray a part of their expenses by working for the College at such times as their regular duties will permit.

The rate of pay is made to depend upon the character of the work, and the manner in which it is performed. A student should not count upon earning more than \$40 a session.

CHANGES IN ANNOUNCEMENTS.

The announcements made in this Catalogue are based upon present conditions, and are subject to change without notice.

BUILDINGS.

The physical plant of the College includes nine dormitories, an academic building, a Y. M. C. A. building, a mess hall, an assembly hall, a physics building, an agricultural and horticultural building, an animal husbandry building, a chemical building, a veterinary building, a civil engineering building, an electrical engineering building, two experiment station buildings, two mechanical engineering buildings, a textile engineering building, a hospital, a veterinary hospital, a serum laboratory, a farm implement building, a dairy barn, a power plant, a laundry, a sewerage system, barns and outhouses, and residences for instructors and officers, with a total valuation of approximately \$2,000,000.

ACADEMIC BUILDING.

The Academic Building, completed in 1914, is located on the highest part of the Campus and occupies the site of the original Main Building, which was erected in 1876, and destroyed by fire May 27, 1912. It is 89 feet wide and 260 feet long and four stories high. It provides class and lecture rooms for the departments of architecture, drawing, economics, English, history, and mathematics, and quarters for the administrative offices, and the library; certain other departments have been assigned temporary quarters in this building. The building is constructed of brick and reinforced concrete, and is fireproof.

BERNARD SBISA HALL.

This is a one-story, fireproof building, erected in 1912, to replace the Mess Hall destroyed by fire in October, 1911. It is named in honor of Bernard Sbisa, Supervisor of Subsistence. The seating capacity is 2000 and the appointments of the building are modern in every respect.

Y. M. C. A. BUILDING.

The Y. M. C. A. Building occupies one of the best locations on the Campus. The building proper is "T" shaped in plan, 89 feet across the front and 111 feet from front to rear. It is three stories high, exclusive of basement, with front portion surrounded by a wide terrace that forms a portion of the basement story. A barber shop, bowling alleys, locker rooms, shower baths, and swimming pool occupy the basement space; the lobby, auditorium and secretary's office the first floor; two large social rooms and toilets the second floor; and a large conference room, dining room, pantry, and nine sleeping rooms with baths the third floor.

GUION HALL.

This building was erected in 1918 and is named in honor of Judge John I. Guion, a former President of the Board of Directors. It is a

modern college auditorium, seating nine hundred and sixty on the main floor and nine hundred and forty in the balcony. The building is the terminating feature of the south end of Military Walk balancing Bernard Shisa Hall on the north end. Its classic facade of six large columns gives a stately effect. The auditorium contains a large stage, seating as many as a hundred people, dressing rooms for men and women, and space for a modern pipe organ.

HOSPITAL.

The Hospital was erected in 1916. It is two stories and basement high, 116 feet long by 82 feet wide where its dimensions are greatest. The construction is fireproof except for the doors and windows of the wards; openings into the stair tower and elevator shaft are guarded by approved metal doors and windows.

The administration department includes a waiting room, two examining rooms, a record room, a locker room, a dispensary, a laboratory, an operating suite (surgeons' and nurses' "scrub-ups," sterilizing and anesthetizing and operating rooms), blanket warmers, and X-ray room, a library, and storerooms. There is an employees' dining room, a complete kitchen with supply rooms and refrigeration, and diet kitchens with dumb waiter service, steam tables and electric ranges for each floor. There are also living quarters for the staff and attendants.

The College Hospital is the first hospital building in the world to be equipped with showers throughout. There are nineteen, all provided with anti-scalding devices, those for patients being automatically regulated to discharge water of a constant pressure. There is but one permanently installed tub.

POWER PLANT.

This building, completed in 1917, is a modern fireproof structure, carefully designed to house boilers, engines and machinery used to generate heat and light and to manufacture ice for all College purposes. Space is provided for expansion to take care of future growth. The building comprises about twenty-one thousand seven hundred square feet of floor space.

CHEMISTRY BUILDING.

This building, erected in 1902, is 138 feet long and 130 feet deep. It is built of brick and contains two stories and a basement. It contains the offices, class rooms, laboratories, and storerooms of the department of Chemistry and Chemical Engineering.

MILITARY SCIENCE BUILDING.

This building, erected in 1920, is a two-story frame structure with a stucco exterior and a fire resisting roof, 45 feet wide and 71 feet long. It is conveniently arranged to provide offices for the Military

Staff and six large class rooms for instruction in Military Science and Tactics.

PHYSICS BUILDING.

The Physics Building, erected in 1919-20, is 61 feet wide by 120 feet long. It is modern and fireproof in all respects.

The building comprises a well lighted basement and two upper stories. In the basement are located the heat, optical and magnetic laboratories; five small laboratories, dark rooms, storage rooms, and toilets. On the first floor the general laboratory; electrical laboratory; four offices; shop, apparatus rooms and toilets are located; and on the second floor five recitation rooms; a large lecture hall; a small lecture hall; apparatus room and toilet.

AGRICULTURAL ENGINEERING BUILDING.

This building temporarily houses the department of Agricultural Engineering. It provides offices, class rooms, and laboratories for the study of gas engines, tractors, and farm equipment and machinery.

AGRICULTURAL AND HORTICULTURAL BUILDING.

This building, erected in 1899, accommodates the agricultural and horticultural departments of the College, furnishing rooms for class instruction, laboratory investigations, museum purposes, butter and cheese making, pasteurizing milk, seed storeroom, photographic room, and the necessary offices for the accommodation of these departments. This building is 160 feet long and 77 feet wide, two stories high, and covered with slate. It contains twenty-seven rooms, fitted with apparatus and machinery for the instruction of students in the several branches of agriculture and horticulture.

ANIMAL HUSBANDRY BUILDING.

The Stock Judging Pavilion, built in 1917, is a fireproof building 200 feet long by 100 feet wide, containing a 160-foot by 60-foot display ring, surrounded by reinforced concrete circus seats for 1600 spectators. Additional seats of the same character can be erected in the four corners and will provide 240 more sittings. The roof is of cement tile, supported by steel trusses which are carried on steel columns placed back of the seating sections between them and the wall aisles, thus providing unobstructed view for the entire audience.

The space underneath the seating sections is completely utilized. There are three class rooms with attached offices, waiting rooms, locker and toilet rooms, a washing room, a killing room with refrigeration, quarters for the custodian and ten box stalls for show stock.

DAIRY BARN.

The dairy barn, built in 1916, is a one-story hollow tile building, situated west of the railroad tracks on the principal axis of the campus. It is 200 feet long by 34 feet wide, with a wing in rear 34 feet by 33 feet. The main part is a single room unobstructed by posts, and is used for milking only. There are stalls for 98 cows, which stand in rows back to back. A trolley carrier, suspended from the roof and running the length of the building is used for handling the milk, which is taken through a screened passageway to a separate building of the same type of construction at the south end, where it is cooled, separated and prepared for use, and where all utensils are sterilized after each milking.

The floor of the milking room is of concrete and is washed out with a hose twice daily. All doors and windows and the openings into the ventilator running the length of the roof are screened. Conditions are ideal for the production of certified milk.

The wing in the rear contains offices, showers, supply and feed rooms.

CIVIL ENGINEERING BUILDING.

This building, erected in 1909, contains eight lecture rooms, five laboratories, five drawing rooms and several offices and storerooms.

The building is 125 feet wide and 73 feet deep; it has a basement and three stories, is heated by steam and is fireproof.

ELECTRICAL ENGINEERING BUILDING.

This building, erected in 1912, contains thirteen lecture rooms, four laboratories, two drawing rooms, and several offices and storerooms.

It has a basement and three stories; is 125 feet wide by 103 feet deep; is heated by hot water, and is fireproof.

MECHANICAL ENGINEERING BUILDING.

This building, erected in 1919, is 53 feet wide and 94 feet long. It is modern and fireproof in all respects and comprises a basement and three stories.

In the basement are provided two laboratories, preparation, storage and shipping rooms. On the first floor are offices, museums and recitation rooms; on the second, offices, recitation rooms, and a library; on the third, two large drafting rooms, a lecture hall, blue print room and an office. A toilet room is located on each floor.

TEXTILE BUILDING.

This building, erected in 1904, is constructed of smooth red brick, according to the plans of an expert mill engineer, and is an excellent example of modern cotton mill construction. The construction is of

the slow-burning type generally accepted by American engineers as the most satisfactory for cotton manufacturing.

The building is two stories high, 50 feet wide and 180 feet long. The first floor is occupied by the carding and spinning and warp-preparation machinery, and the professor's office. The second floor is occupied by the weaving and cloth-finishing machinery and by the designing and class rooms, and the offices of the instructors in weaving.

The building is heated throughout by a Webster vacuum system of steam heat, and a complete sprinkling system for fire protection has been installed. The plumbing in the building is perfectly sanitary and typical of the best cotton mill practice.

VETERINARY HOSPITAL.

The Veterinary Hospital, erected in 1908, contains a clinic room, 36x36 feet, eight box stalls, four tie stalls, two rooms for dogs, a large colic stall, feed room, medicine room, janitor's room, etc. The building is floored with concrete, with traps from each stall to the sewer, thus permitting the proper isolation of contagious diseases and the thorough disinfection of each stall. An automatic flush tank serves to keep the building in a sanitary condition.

FRANCIS HALL.

This building was completed in 1918 to provide laboratories and class rooms for the School of Veterinary Medicine. It is of fireproof construction, 140 feet long and contains three stories and a basement. The first floor contains an office, a library, an amphitheater, an animal room, an apparatus room, a laboratory for anatomy, histology and embryology, and a laboratory for the Department of Medicine and Surgery. The second floor contains an office, a class room, a storeroom, a laboratory for physiology, and one for pharmacology. The third floor is devoted to pathological work. There are two offices, apparatus room, post-mortem room, preparation room and two laboratories, one of which is devoted to pathology and bacteriology for college work; the other to pathological problems involved in Experiment Station work.

Each floor is served by a small elevator, and has the usual toilet facilities. On each floor there are constant temperature rooms. One of these is the "hot" room, which is intended to maintain a reasonably constant temperature from 90 degrees to 110 degrees F. The other is the "cold" room, which is equipped with brine coils to provide a temperature from 30 degrees to 50 degrees F. The basement is used entirely for storage and the service pipes and apparatus.

The entire building is supplied with hot and cold hydrant water, rain water, steam heat, high pressure steam for the autoclaves, gas, electricity, compressed air and vacuum. The laboratory furniture is of special design manufactured by the Kewanee Manufacturing Company.

SERUM LABORATORY.

The serum laboratory, built in 1917, is a one-story fireproof building, 100 feet long with an average width of 32 feet. It is arranged for the manufacture of hog cholera serum. It contains observation pens, preparation rooms, killing, hyper-immunizing and bleeding rooms, defibernating rooms, laboratories, storage and packing rooms, offices and toilets.

RESEARCH CHEMISTRY BUILDING.

This building, erected in 1909, is 115 feet wide and 61 feet deep; it has a basement and two stories, is heated by steam, and is fireproof.

It is occupied by the divisions of Chemistry, Entomology, Plant Pathology and Physiology of the Experiment Station.

RESEARCH ADMINISTRATION BUILDING.

This building, erected in 1918, is occupied by the Administration and Research Divisions of the Experiment Station. It is modern and fireproof, and is one of the most complete research laboratories devoted to Experiment Station work in the country. Offices are conveniently arranged for the Director and his staff, with a conference room adjoining. Other well arranged offices are provided for the heads of the various divisions and their assistants. A large room is given to the needs of a library. The various laboratories are equipped with electricity, gas, air, steam, and water for experimental purposes; and in connection with each is a large fireproof vault for storage of valuable data. Non-vibrating balance tables are provided in the laboratories. The basement provides ample space for the storage of supplies and materials. Above the basement there are three stories; a freight elevator runs from basement to top floor.

GATHRIGHT HALL.

This building was erected in 1876, and is named in honor of Thomas L. Gathright, the first President of the College. It is used temporarily for offices for the Extension Service, and for other purposes.

Dormitories.

All the dormitories are screened.

PFEUFFER HALL.

This is a dormitory, erected in 1887, and contains twenty-five rooms. It is named in honor of George Pfeuffer, a former President of the Board of Directors.

AUSTIN HALL.

This is a dormitory, erected in 1888, and contains twenty-five rooms. It is named in honor of Stephen F. Austin.

ROSS HALL.

This is a dormitory, erected in 1892, three stories high, with forty-one rooms, with running water in each. It is named in honor of former President L. S. Ross.

FOSTER HALL.

This building was erected in 1899, and is named in honor of former President L. L. Foster. It is a dormitory and consists of three separate parts; the central part is four stories high and contains nineteen rooms; the two ends are three stories high and contain eighteen rooms each. There is running water in each room.

GOODWIN HALL.

This dormitory was erected in 1908 and is named in honor of Hon. G. I. Goodwin. It contains eighty-two rooms and is equipped with a steam heating system and modern toilet facilities. There is running water in each room except those on the first floor.

MILNER HALL.

This building was erected in 1911 and is named in honor of former President R. T. Milner. It is a dormitory containing one hundred and two rooms. The building is four stories high; there are no connecting stairways between the several floors, but each story has separate entrances so as to divide the building into four distinct parts, without interfering with the ventilation in any part of the building. Each story has four shower baths and ample toilet facilities. Every room is provided with water, electric light, and hot water heat.

The building is constructed of reinforced concrete and brick, and is practically fireproof.

LEGETT HALL.

This building was erected in 1911, and is named in honor of K. K. Legett, a former President of the Board of Directors. It is in every respect a duplicate of Milner Hall.

HARVEY MITCHELL HALL.

This building was erected in 1912, and is named in honor of a former citizen of Bryan, who was largely instrumental in having the College located in Brazos county.

It is a dormitory, having a basement and three stories, and contains eighty-six rooms, each one having an outside exposure. Each story has shower baths and ample toilet facilities. Every room is provided with water, electric light, and hot water heat.

The building is constructed of reinforced concrete and brick, and is practically fireproof.

BIZZELL HALL.

This is a modern, three-story dormitory, erected in 1918, and is named in honor of President W. B. Bizzell. It is built in two sections: the lower floors being connected by a covered passageway. It contains sixty-six rooms, and ample toilet and bathing facilities on each floor of both sections; every room is provided with running water, electric light and steam heat.

The building is of concrete and brick, and is practically fireproof.

SEWERAGE SYSTEM.

The College is provided with a system of sewers, to which are connected the buildings of the campus. The outfall of the system is three-fourths of a mile from the nearest College building and nine-tenths of a mile from the nearest recitation hall or dormitory.

GROUNDS AND GARDEN.

The garden, orchard, barnyards and campus are included in the enclosure to the east of the railroad stations. The campus consists of some twenty-five acres of lawn, shrubbery and flowers.

The orchard, vineyard, nursery and garden are located north and east of the Academic Building.

FARM.

The farm proper comprises about three hundred and fifty acres, and has the necessary barns, silos, and outhouses. The pastures contain about one thousand acres, and furnish grazing for the College herds.

EQUIPMENT.

AGRICULTURAL ENGINEERING.

The Agricultural Engineering Department has special laboratories for each of the following subjects: Farm machinery, farm motors, automobiles and tractors, and concrete construction. In addition to this there is a drawing room for the use of classes in farm buildings, irrigation and drainage. A hundred-acre farm is provided for practical work in the various subjects.

The farm machinery and tractor laboratories are housed in a building 160x100 feet, which is entirely taken up with up-to-date farm machinery and tractors, such as should be used on Texas farms. The machinery consists of different makes of plows, harrows, planters, cultivators, harvesters, seed cleaners and grinders.

The farm motor laboratory contains twenty-five farm gas engines, together with all apparatus necessary for testing same, and a supply of extra magnetos and carburetors.

The automobile and tractor laboratory contains thirty-four, six, eight, and twelve-cylinder motors, six automobiles, two trucks, a number of chassis, soldering and babbitting room, acetylene welding outfit, special ignition apparatus, storage battery charging and repair outfit, and a number of surplus magnetos and carburetors.

The concrete construction laboratory is equipped with cement and aggregate testing apparatus, together with molds and forms for making such simple concrete structures as are found on the farm.

Equipment for special field work in terracing, drainage and irrigation has been provided.

AGRONOMY.

The Agronomy Department has four well equipped laboratories. Two of these are used for instructional purposes in soils, one for instructional purposes in farm crops, and one for instructional purposes in genetics and plant breeding.

The main soils laboratory is equipped with a centrifuge, shaking machine, Briggs filter, electric air pump, torsion balances, chemical balances, drying ovens, hot plates, compound microscopes, evaporimeters, soil capillary tubes, soil samplers and all of the smaller equipment and chemicals for a modern soils laboratory.

The soil fertility laboratory is equipped for specialized instruction in soils for the benefit of senior students who desire to specialize in this subject, and for graduate instruction in soils.

For soil survey instruction, the department has five plane tables equipped with alidades; also other miscellaneous equipment for this work.

The farm crops laboratory is equipped for general laboratory in-

struction in farm crops and also for specialized instruction in commercial grain grading. For the general laboratory study of farm crops the chief items of equipment are standard seed testers, dissecting sets, hand lenses, torsion balances, insect-proof and rat-proof grain bins. Also type samples and specimens of all the important field and forage crops are kept in stock for study. For the work in grain grading the chief items of equipment are two Brown-Duvel moisture testers, a "wild-oat kicker," several complete sets of dockage sieves for determining dockage in the various classes of grain, two "weight per bushel testers," grain triers, a sampling device, grain pans, and a complete stock of the various kinds, classes and grades of grain for practice work in determining the grades.

The genetics and plant breeding laboratory contains all of the modern equipment necessary for laboratory instruction in these subjects.

The department has a modern greenhouse 67x25 feet, equipped for soil fertility, farm crops and plant-breeding work. For field study the department has 35 acres of land devoted to demonstration and experimental work in crops and soils. All of the important types and varieties of farm crops adapted to this section are grown for field study.

The department maintains a rather complete technical library, in which will be found practically all of the standard works and journals pertaining to agronomy, as well as the Experiment Station bulletins and reports.

ANIMAL HUSBANDRY.

The Animal Husbandry Department is equipped with the following breeds of live stock: Standard Bred, Thoroughbred, Morgan, and Percheron breeds of horses; Shorthorn, Hereford, and Aberdeen-Angus breeds of cattle; Shropshire, Hampshire, Southdown, and Rambouillet breeds of sheep; and Duroc-Jersey, Poland-China, Berkshire, and Tamworth breeds of hogs. These breeds are represented by registered breeding animals in the cases of horses, and by both registered breeding animals and market animals—steers, wethers, and barrows—in the case of cattle, sheep, and hogs, respectively.

On the Animal Husbandry farm there are four barns, viz., a horse barn, a beef cattle barn, a sheep barn, and a hog barn. The land on which the hogs and sheep are kept is divided into small fields and pastures, thus permitting forage crops and pasturage rotation for these animals.

ARCHITECTURE.

The department has a number of signed drawings and color renderings, an ample library of valuable books, several thousand plates in ring books, a lantern and slides, and a number of well chosen casts—to all of which additions are being made constantly. Students of architecture have, of course, access to the equipment of other departments in which they are taking work.

BIOLOGY.

The department in its various branches is thoroughly equipped with apparatus for lecture room and for laboratory use. There are six laboratories—one zoological, three botanical, one bacteriological and one research. All are amply provided with tables and other general apparatus.

For the use of elementary classes, the department is provided with 45 standard two-power microscopes, with their usual accessories; charts and models of plants and animals; a fairly good collection of prepared specimens, and a herbarium of about 3000 mounted plants. A small greenhouse has lately been acquired. For experimental work and demonstration in the class room, there is an excellent equipment of instruments of precision, largely of French and German make. For the use of more advanced workers there are 12 high-power microscopes of the best makes; 3 Leitz binocular dissecting microscopes; Reickert and Minot microtomes; imbedding ovens; a large and a small incubator; two steam sterilizers; analytical balances; and a full equipment of glassware, chemicals, stains and similar materials.

The library contains about 300 books of reference and several thousand separates, bulletins and special papers. The leading journals of botany, zoology, bacteriology, and mycology are also available to the student.

CHEMISTRY AND CHEMICAL ENGINEERING.

The department has the usual laboratory facilities, including a vacuum system for rapid filtration, a compressed-air system for use with blast lamps, and a ventilating system. The laboratories are supplied with hydrant, cistern and distilled water. Each student is assigned to a lock-desk containing the necessary equipment. The large lecture room, with raised seats, has a seating capacity of one hundred and thirty. The museum occupies a large, well lighted room.

There is a separate room for technical analysis and one for advanced industrial chemistry. The latter is not yet fully equipped. The former is provided with vacuum and compressed-air systems, colorimeters, calorimeters, refractometers, Levibond tintometer, combustion furnaces, gas burettes, and other special apparatus used in technical analysis. The laboratory has the usual equipment for work in physical chemistry.

The department has a good reference library.

CIVIL ENGINEERING.

The equipment in this department is excellent and sufficient in quantity to meet the needs of the classes at the present time, and additions are being made to it each year.

For the field work, the equipment consists of a well-assorted lot of transits and engineers' levels for general work; also for more precise work in city surveying and leveling and for simple triangulation. Also

surveyors' compasses, terracing levels, plane tables, aneroid barometers, range poles, rods, chains, chain tapes, metallic tapes, surveyors' pins, axes, etc. For the drafting room and other office work there are drawing tables, reckoning machines, two universal drafting machines, planimeters, slide rules, calculating instruments, protractors for general and special use, and a sufficient supply of T-squares, etc.

In the general testing laboratory there is one machine of 100,000, one of 50,000 and one of 20,000 pounds capacity, a 50,000 inch-pounds torsion machine, and a rattler for testing paving brick. With the exception of the 20,000-pound machine these are all power-driven.

The hydraulic laboratory contains weirs, pressure gauges, hook gauges, water meters, measuring tanks, impulse wheels, hydraulic ram, centrifugal pumps, pitot tubes, current meters, nozzles, and other apparatus for hydraulic measurements. The centrifugal pumps are connected to a pressure tank in order that they may be forced to pump against various heads.

In the cement laboratory are moulds for shaping test specimens, cement testing machines, sieves for testing the fineness of cement and sand, Vicat and Gillmore's needles for testing time of setting, damp closet, balances, pans and other appliances used in testing the qualities of cements.

The road materials testing laboratory is completely equipped with the most modern machines for testing non-bituminous road materials. This equipment includes a diamond core drill, diamond saw, grinding lap, Dorry hardness machine, Page impact machine for toughness test, Deval abrasion machine, ball mill, cementing-value briquette-forming machine, cementing-value impact testing machine, brick rattler, stone and sand sieves, sieve agitator, balances and other miscellaneous equipment.

There is also an exceptionally well equipped laboratory for the study of bituminous pavements and paving materials, which laboratory affords a means of instruction in the present-day methods of constructing bituminous roads and in the study of materials used for this purpose. It also offers opportunities for co-operative work with the cities and towns of Texas in the investigation of their pavements and available paving materials.

A road exhibit room is also maintained for the benefit of students and visitors. In this room are shown models of road sections and surfaces made of various materials available in Texas. Samples of gravel, rock, asphalt, and road soils, together with photographs, charts and maps of road work in the State complete the exhibit.

The department library and reading room contain engineering books, periodicals, blue prints, photographs, etc., and are kept open for the use of students during the session.

DAIRY HUSBANDRY.

This department is thoroughly equipped to educate and train young men along the lines of feeding, breeding, care and management of dairy cattle; the handling of milk and the manufacture of dairy products.

The department controls a complete dairy farm of 593 acres of land, the operations of which are devoted to the growing of feed crops, and the preparation and maintenance of permanent pastures for the dairy herd. Two hundred and twenty-five acres are under cultivation, the remainder being devoted to pasturage.

All modern machinery is used by this department, including breaking plows, cultivators, and harvesting machinery.

The herd consists of 170 animals, including cows, calves, and bulls, of which there are 80 pure bred Jerseys, 43 pure bred Holsteins, and 13 pure bred Ayreshires. The milking herd usually includes about 80 cows, which are housed in a modern dairy barn constructed of tile and concrete, and furnished completely with modern barn equipment.

The creamery and laboratory occupy the entire south end of the ground floor of the Agriculture Building. The creamery is operated on a commercial basis, and all equipment and machinery necessary for the manufacture of butter and ice cream is available, including a modern six-ton York refrigeration unit.

The laboratory includes such equipment as glassware, Babcock testers, centrifuges, separators and other necessary equipment for the proper testing of milk and its products.

DRAWING.

This department is located on the fourth floor of the Academic Building. It occupies four large drawing rooms, two recitation rooms, offices, etc., all of which are especially well ventilated, heated and lighted.

The department is fully equipped with necessary furniture, models, plaster casts, life-size statues, etc.

For illustrative purposes there is in use in the department all modern apparatus for the draftsman, such as electric blue printing machine, universal drafting machine, pantograph, ellipsograph, etc.

A reference library of the best works on drafting, illustrating, etc., is kept in the department for the convenience and use of students.

ELECTRICAL ENGINEERING.

The electrical engineering laboratories comprise three electrical machinery laboratories, two measurements laboratories, a standardizing laboratory, a photometric laboratory, a storage battery room, a storage battery repair room, a communication laboratory for telephone, telegraph and radio work, a work shop, two rooms for building and repairing electrical machinery, and an instrument room.

The electrical laboratories are supplied with 2300 volt, three-phase, 60-cycle power from the College power station. Alternating current at 110 and 220 volts is obtained through transformers. Direct current is supplied by two motor-generator sets located in the machinery laboratory. The smaller set consists of a 2300-volt, 50-horse power induction motor direct connected to a 35 kw., 125-volt, compound wound direct current generator. The larger set consists of a 2300-volt, 100-horse power synchronous motor direct connected to two 35 kw., 250-volt, Dobrowolsky, three-wire direct current generators, so arranged that they may be operated independently or connected in series for obtaining 500 volts. A 3-panel switchboard controls the above equipment and the feeders to the 6-panel switchboard used for the distribution of power within the machinery laboratories and to the switchboards located in the other laboratories. Throughout all laboratories the distribution of power is controlled by a plug-and-socket system, thus securing absolute flexibility.

The storage battery room contains a 110-cell Edison storage battery, with a mercury arc rectifier for charging. The batteries are connected through suitable control to the main distributing board.

The equipment of the machinery laboratories is as follows: Two street car motors mounted on a single shaft with prony brake attachment, and equipped with both a hand controller and a master controller operating an electro-pneumatic system; one 250-volt and one 500-volt direct current motor; one 5-horse power, 110-volt, direct current series motor with interpoles; one $1\frac{1}{2}$ -horse power shunt generator; three 6 kw. compound wound machines; three 4 kw. compound wound machines; one 5 kw. direct current machine with four slip rings; four 5 kw. compound wound direct current generators with interpoles; four $7\frac{1}{2}$ -horse power compound wound motors with interpoles; one $7\frac{1}{2}$ -horse power Reliance variable speed motor; one 20-horse power and one $12\frac{1}{2}$ -horse power direct current motor; one $12\frac{1}{2}$ kw., three-wire generator; one compensator variable-speed direct current motor; two 30 K. V. A. and two $7\frac{1}{2}$ K. V. A. alternators; two 10 K. V. A. three-phase alternators with six slip rings; one 20 K. V. A. six-ring converter; one 8 K. V. A. converter; one 8 K. V. A. split-pole converter; one 10 K. V. A. three-phase generator driven by a set of two 10-horse power, three-phase induction motors, arranged for cascade operation; four motor generator sets, consisting of a direct current motor and a 3 K. V. A. alternator with six rings for single-phase, two or three-phase; a number of single-phase and polyphase induction motors. There are a number of constant voltage transformers, a constant current transformer, and several types of automatic motor starters.

The high tension laboratory contains a 100 K. V. A. 200,000-volt transformer, with regulators for varying the voltage, a 125 cm. spark gap, a crest voltmeter with a number of auxiliary devices.

The electrical measurements laboratory has a full equipment of the apparatus needed for the study of the fundamentals of electrical meas-

urements. The equipment includes the following: Various types of Wheatstone bridges; a Kelvin double bridge; a Cary-Foster bridge; magnetometers, dynamometers; portable, semi-portable and wall galvanometers; astatic galvanometers; universal tangent galvanometer; calorimeters; sechometer; influence machine; electro-static apparatus; spark coils; apparatus for testing magnetic qualities of iron and steel; standard resistances; standard cells, physical balances; universal shunts; resistance boxes; variable inductances and capacities; portable storage batteries, and various minor equipment.

The standardizing room is equipped with a Leeds and Northrup potentiometer and its accessories; Weston standard laboratory voltmeter, and milli-voltmeter with shunts; a Kelvin balance; Westinghouse precision ammeter, voltmeter, and wattmeter; and standard resistances and standard cells. In this room there are also a three-vibrator oscillograph with photographic attachment, and a motor generator set consisting of direct current motor direct connected to a set of four alternators giving a fundamental wave, and the third, fifth and seventh harmonies, so arranged that any desired phase relation may be obtained between each of the harmonies and the fundamental.

The photometric laboratory has two dark rooms for photometric work proper. The equipment includes a station photometer; two illumination photometers; a Sharp-Miller photometer; a Flicker photometer; an integrating photometer consisting of an Ulbricht sphere two meters in diameter, with accessories, especially adapted for arc light photometry; rotating apparatus; a number of incandescent lamp candle power standards; and a collection of various arc lamps, and a number of units representing various indirect and semi-direct lighting systems. There is also a room for the demonstration and comparison of various light sources and systems.

The communication laboratory is equipped with central energy and magneto telephone switchboards, an automatic switchboard, and numerous types of telephones and parts; simple and duplex telegraph sets; radio telegraph and telephone instruments of various kinds; wave meters and decimeters, coils, condensers, tubes, etc., for building radio circuits. The department also maintains a complete radio station capable of communicating distances of 500 to 600 miles by radio telephone and distances of 1500 miles by radio telegraph. This equipment is available for study from both engineering and an operating standpoint.

Through the generosity of the Otis Elevator Company, a complete motor-driven elevator winding-engine equipment of the most modern type, complete with all automatic switches, regulators, controllers, etc., has been donated and installed in the laboratory for test and demonstration purposes.

The department also has a number of frames of dynamos and motors and cores of transformers that are used by the students in learning to wind and repair these machines.

The equipment for the students in electrical engineering is augmented by the fact that the direct connected generators in the powerhouse, their exciters and measuring instruments, and the motors used to operate the Textile School, machine shop, and other laboratories are available for tests as practical operating plants after the students have performed the required experiments on the machines located in the laboratory.

Students are urged to read the literature pertaining to their work, and for this purpose the department library is available. A reading table is maintained, on which are kept the current copies of a number of technical magazines. The technical books in the general library are also available to the students.

ENTOMOLOGY.

The Department of Entomology maintains two laboratories, one of which is equipped with dissecting and compound microscopes, and the other with compound microscopes. In addition, the department maintains an insecticide laboratory equipped with the more important insecticides and spray machines, powder guns, etc.

The department has several insect models illustrating the anatomy of the more common insects, together with a series of charts illustrating the life histories of insects. This equipment is supplemented by a balopticon and several hundred lantern slides illustrating the anatomy and life history of the most important insects.

The equipment in apiculture consists of a bee house and workshop containing honey extractors, wax presses, wiring devices and different makes of bee hives. In addition to this, the department has a small apiary, where the student can familiarize himself with the practical operations of beekeeping.

For life history work, the department has an insectory equipped with breeding cages, a hydrothermograph, and all necessary equipment for working out the life histories of insects.

A library is maintained, which comprises two hundred and eighty volumes of technical books on Entomology. This library contains full sets of the Transactions of the American Entomological Society, Genera Insectorum, Journal of the New York Entomological Society, Entomological News, The Canadian Entomologist, and Psyche.

In addition, a reading table is maintained, on which are kept the recent publications on economic entomology and apiculture.

FARM MANAGEMENT.

The department possesses detailed financial records of the business of many farms located in various parts of Texas and other States.

Files of the Crop Reporter, Market Reporter, Bureau of Labor Price Reports, U. S. Census, and many reports of farm management investigations, are contained in the department library.

Adding and calculating machines and slide rules are available for students working on special problems.

GEOLOGY.

The department of geology has been presented with a very valuable collection of minerals and rocks by Mr. F. W. Steber of Dallas, which will form a nucleus around which a representative geological museum of Texas rocks and mineral products will be built. This collection consists of many of the rarer rock-forming minerals, as well as a representative collection of the more important ores, especially Texas ores. The rock specimens include a great variety of igneous and metamorphic rocks, thin sections for microscopic examination, and a number of typical sedimentary rocks.

HORTICULTURE.

The class-room work in horticulture is considerably strengthened by practical exercises in orchards, gardens, and laboratory.

There are now growing on the horticultural grounds orchards containing the standard varieties of peaches, pears, plums, pecans, persimmons, grapes, figs, blackberries and dewberries.

In addition to the commercial gardens, where vegetables are grown for use at the Mess Hall, there is a plat of ground that has been set aside on which a great variety of vegetables are grown under the direct supervision of the student.

There is maintained, in co-operation with the American Rose Society, a rose garden which, when completed, will contain about eight hundred varieties. There is also to be found on the horticultural grounds a rather complete collection of ornamentals.

The department has ample equipment for the control of insects and diseases, including various types of sprayers.

The collection of lantern slides owned by the department, which are used for illustrating different subjects, especially those in landscape art, is growing rapidly, there being now over nine hundred.

For work in plant propagation, in forcing early vegetables, in plant breeding, and in floriculture, the students have the use of one of the finest greenhouses to be found in the Southwest.

MECHANICAL ENGINEERING.

In the carpenter shop are excellent double work benches of special design, equipped with quick-acting vises, and the saws, planes, chisels, etc., ordinarily found in a carpenter's kit, each student having a set of edge tools assigned to him alone. Supplementing these are a number of special tools in the tool room.

The pattern shop equipment consists of pattern maker's benches, each equipped with vises, drawers, lockers, and outfit of hand tools; and in addition there is an assortment of special tools in the tool room,

as well as a large number of small turning lathes, pattern maker's lathes, circular saw, band saw, and jointer.

The foundry is equipped with one dozen bench molding stands, with all necessary shovels, riddles and small tools, a number of floor molding kits, flasks of all kinds, a core machine, a core oven, a squeezer, a Combs gyratory riddle, a brass furnace with all necessary accessories, a No. 1 Whiting cupola with electric-driven blower for blast, and a Clark blast meter for measuring the amount of air supplied. The other accessories for this cupola are also included in the equipment.

The forge room equipment consists of one 250-pound steam hammer, emery wheels, forty new forges, all having power blast and exhaust, and a number of hand forges, the necessary anvils, tongs, and other small tools usually found in a forge shop. Besides oil and water baths, the equipment includes a pyroscope for observing the temperature of metals under heat treatment.

In the machine shop the equipment is very satisfactory. It consists of a full line of lathes, grinders, milling machines, automatic machines. The automatic machine is one of the most highly specialized machines for the rapid production of duplicate parts. The tool room contains a large assortment of taps, dies, drills, reamers, chucks, and other machine accessories, as well as the small tools for laying out work and accurately and properly measuring the same; calipers, micrometers, steel scales, punches, surface plates. Electric portable drills and grinder are also included in the equipment.

The engineering laboratory contains steam engines, gasoline engines, steam turbines, steam and power pumps, fans, water motors, a hot-air engine, condensers, air pump, injectors, and a full line of indicators, gauges, pyrometers, thermometers, tachometers, speed indicators, weirs, pitot tubes, prony brakes, platform scales, etc., for conducting tests as outlined in course 403.

In addition, the laboratory has the use of all apparatus of the power plant, consisting of simple and compound engines, pumps of several different kinds; also the boilers of well known makes and different types. The equipment of the steam plant makes available larger engines, condensers, air compressors, air lift pumps, etc., for instruction purposes.

For the class-room instruction there are numerous full-size wooden and metal models of different kinds of engines, also sections of actual air-brake equipment and other appliances and fittings for railway and power plant equipment.

Besides the above mentioned equipment might be mentioned the fact that manufacturers have in some instances deposited or donated for the use of the department a number of standard appliances, which prove valuable to the student.

MILITARY SCIENCE AND TACTICS.

The department has full equipment for Infantry, Field Artillery, Signal Corps, Cavalry, and Air Service, as follows:

Infantry.—The infantry is equipped with every piece of equipment that a regular army regiment of the United States Army has. This includes rifles, pistols, machine guns, automatic rifles, one-pounder guns, trench mortars, hand and rifle grenades, gallery rifles, infantry packs, ammunition for all arms, and field engineering tools. Besides these arms and equipment, the infantry has facilities at hand to use all of its equipment, including an indoor gallery range and a 1000-yard outdoor rifle range.

Field Artillery.—One 3-inch battery complete, consisting of four 3-inch guns, 8 caissons, 10 limbers, 2 battery and store wagons, 2 store limbers, battery reel cart, 90 horses, 4 mules, harness and saddle equipment for all horses, and all accessories, spare parts and tools; also included in the equipment are one 4.7-inch rifle with limber and caisson, one 155 mm. howitzer with limber and caisson, one 155 mm. rifle with limber and caisson, and one each of the American, British and French 75 mm. guns with limbers and caissons; one ordnance repair truck, complete; four motorcycles with side cars; two 5-ton caterpillar tractors; 2 F. W. D. ammunition trucks, one White reconnaissance car. The artillery equipment also includes four Browning machine guns, four automatic rifles and a complete supply of fire control instruments, such as B. C. telescopes, range finders, aiming circles, trench periscopes, prismatic compasses, sitogoniometers, and an assorted supply of smaller instruments, including drawing instruments, slide rules for field artillery computations, compasses and stop watches.

Cavalry.—Sixty sets of cavalry equipment, consisting of saddle, saddle blanket, bridle, saddle bags, rifle scabbard, lariats, picket pins, sabres, sabre scabbard, feed bags, grain bag, halter, and halter tie rope. Two pack outfits complete, consisting of aparejo, corona, manta, layer sling and lash ropes; sixty cavalry horses; two pack mules; four draft mules; one wagon escort; harness.

Air Service.—One airplane and accessories; one Liberty motor, complete; one Wright motor (Hispano-Suza), complete; one rotary motor, complete; tools for overhauling motors and repair of airplanes; machine guns, aerial; three types; aerial machine gun sights, bombing sights; dummy drop bombs; radio sets, ground and airplane; airplane instruments; airplane propellers, airplane radiators, magnetos, carburetors.

Signal Corps.—Radio telephones; radio telegraph; damped and undamped military telephones; automatic telephones and switchboard; storage batteries and charging plant for automatic telephones; service buzzers; buzzerphones; T. P. S. (telegraphic par sol) ground radio; Kellogg cross section open commercial switchboard; commercial telegraph sets; printing machine; repeaters; horse-drawn wire carts;

motorcycles; trucks; tools and equipment for instruction in cable splicing; heliograph, flags, projectors; mechanical tools of all kinds for repairing technical equipment; literature and books for conducting technical courses in signal corps work.

PHYSICS.

The main lecture room of the Physics Building has a seating capacity of 250. It is equipped with amphitheater seats, motor-driven blinds for darkening the room, and with a large lecture table provided with gas, water, and an electrical switchboard. The blinds and lights of the room are controlled from the switchboard.

A smaller lecture room, having a seating capacity of 50, contains a lecture table equipped with water, gas, and a switchboard. Both of these lecture rooms are in direct communication with the preparation room.

The apparatus room of the first floor is equipped with a five-panel switchboard supplied with 110 and 220-volt, alternating current from the College power system, and with 110 and 220-volt, direct current from a 20 kw. motor-generator in the basement. By a plug-and-socket system either alternating or direct current can be distributed by individual lines to any part of the laboratories and to the lecture rooms.

One of the two laboratories of the first floor contains sixteen tables, each supplied with water, sink and gas. It contains also tables for sensitive balances. The other laboratory, designed for electrical measurements, is provided with numerous well distributed outlets for separate electrical lines to the switchboard.

The shop, also on the first floor, is equipped with a motor-driven planer, rip saw and drill press; stock material and the usual metal and woodworking tools.

The basement consists of one general laboratory, ten smaller laboratories for special work, and equipment room for the motor-generator, a storage battery room, a general storeroom, and a storeroom for chemicals.

In the two larger laboratories are fourteen tables mounted on masonry piers which are free from the floor. These tables may be used either for general practice or for special work. Each table is supplied with gas and a separate electrical line to the switchboard.

Two of the smaller laboratories are black and suitable for photometric work. Another 40x20 feet is suitable for general experiments in light.

RURAL SOCIOLOGY.

The department has an extensive library of State and Federal reports and bulletins, together with clipping files and books giving accounts of various forms of social work. It also has a number of maps and charts illustrating in a graphic manner many questions connected with community organization and development. Apparatus for working out the laboratory problems peculiar to this field are available.

Connections have been established by the department for giving the students practical contact with local and State social problems, especially in the field of community organization.

TEXTILE ENGINEERING.

For yarn manufacture there is ample equipment necessary to produce carded or combed yarns, and with it machines for making chain or slashed warps of either single or double yarns.

In the weaving room there are fourteen Northrop looms, which are entirely automatic, and two plain looms for ordinary plain goods. There are two ordinary dobby looms, with box motion to insert four colors for filling; one dobby loom for weaving terry towels; one dress goods loom, with dobby and boxes for making a seven-colored pattern; one loom for weaving narrow Jacquard dress goods, and one with Jacquard loom for weaving table covers.

The finishing machinery is for ordinary ducks, sheetings or drills, and consists of an inspecting machine, railway sewing and rolling machine.

VETERINARY ANATOMY.

The laboratory of anatomy has a number of mounted and unmounted skeletons of the domestic animals, and about twelve sets of disarticulated skulls. There are a number of preparations of the muscles and ligaments, both dry and wet specimens. There are also preparations of the brain, eye, feet and other organs preserved in formalin and a number of charts and papier-mache models. There are the usual microscopes, microtomes, embedding apparatus, stains, reagents, and apparatus used in histology and embryology, and five sets of sections showing the embryology of the chick and the pig.

VETERINARY MEDICINE AND SURGERY.

The class-room work, practice and clinics are largely conducted at the Veterinary Hospital, which has a large operating room equipped with operating tables for large and small animals, stocks, casting harness, and instruments for operations and treatment of diseases of live stock. A dispensary which is stocked with necessary drugs and biologics is maintained. Facilities for keeping records of each case are provided, and when complete are stored in fireproof vaults for future reference. There are wards for sick dogs and other small animals. Provision is made for isolation of animals with infectious diseases and transmissible skin diseases.

A large barn, 50x120 feet, is used for keeping horses, mules, cattle, sheep and goats which are being treated. There are also several other barns and small houses used for isolating animals. After animals are in condition that they do not need daily attention, they are turned in a large pasture to permit occasional treatment and observation until complete recovery takes place.

The serum laboratory offers an unusual opportunity for students to become familiar with the preparation of anti-hog cholera serum, autogenous bacterins and other biologics.

Ambulance service for large and small animals is available; also automobiles for transporting students to see cases that cannot be brought to the College.

A post-mortem building with skylights, sanitary floor, hoisting apparatus and other equipment where post-mortem examination is made on all animals that die in the clinics and many dead animals from Bryan and surrounding country.

A slaughter house with sanitary floor, overhead tracks, hoisting apparatus, scalding vat, meat blocks and cold storage for teaching the slaughtering, cutting, curing and inspection of meat and meat products.

VETERINARY PATHOLOGY.

The laboratory of pathology is reasonably well equipped for instruction in the courses given. The equipment consists of the usual sterilizers, incubators, paraffin-embedding oven, glassware, animals, stains, etc., to be used in pathology and bacteriology. In addition to the usual equipment, a museum, consisting of about 200 specimens of various pathological or disease processes and the more common parasites which infect the domestic animals is maintained.

VETERINARY PHYSIOLOGY AND PHARMACOLOGY.

The physiology laboratory is well equipped with apparatus, reagents, chemicals, etc., for the proper instruction of physiological chemistry, experimental physiology, urine, blood, milk and gastric analysis, and for producing graphic records of the physiological processes of the body.

The pharmacy and experimental pharmacology laboratory is equipped with the apparatus, reagents, chemicals, etc., essential for a thorough training in the preparation of all the official and the more common proprietary medicinal preparations, and for experimental work in the determination of the action of drugs on the living body. It also includes the necessary apparatus for the examination of arsenic, lime-sulphur and other dips, which are commonly used.

The toxicology department is equipped with all the apparatus, drugs, chemicals, experimental animals, etc., essential to the proper study of the action of inorganic and organic poisons, and poisonous plants on the living animal, their detection and the treatment for them.

The apparatus consists of the necessary glassware, mortars, pill tiles, hot water funnels, torsion and laboratory balances, kymographs, pneumographs, plethysmograph tubes, ergographs, tambours, manometers, muscle levers, cardiac levers, saccharometers, urinometers, ureometers, indicanometers, hydrometers, electric centrifuge, electric water bath (for digestion experiments), respiratory and circulatory schemes, microscope, spectroscope, drug mill, steam still, suppository machine and mold,

tablet machine, triturate tablet molds and all other necessary equipment. The department also cultivates a garden of medicinal and poisonous plants, which are used in the above courses.

VOCATIONAL TEACHING.

The department of Vocational Teaching is located on the third floor of the Academic Building. One large section room has been converted into a model laboratory. It has been selected and equipped to serve as an example of a good type for high school agricultural departments. One end of the room is provided with stationary tablet chairs, the other end with movable tables and chairs. Two oak cabinets with sliding glass doors contain all the equipment needed for the laboratory work of a high school. These cabinets were designed in the department and are ideal for high school work. Other cabinets contain commercial exhibits, bulletins, and samples of threshed grains. A carpenter's tool box contains a model set of tools for farm use. Two large rat-proof boxes are filled with head samples of grains. A projection lantern cabinet occupies a convenient place in the room. Charts and farm and garden tools are displayed on the walls. Blackboard space, lighting, blinds, picture screen, and every detail of the laboratory serve as an exhibit of what the high school should have.

A second room contains the visual instruction material. Three cabinets are placed around the wall with space for two hundred and thirty-two sets of lantern slides. Another cabinet contains the cartons of the package library, together with a large collection of illustrative catalogues. Some of the equipment found here are the mimeograph, mimeoscope, charting board, photographic reducing and enlarging apparatus, motion picture rewind, projection and motion picture machines and cabinet of lantern slides. A large photographic dark room is set aside in the basement for developing plates and films and for printing and enlarging pictures. It is equipped with electric light, running water, trays, chemicals, amateur printer, electric fan and washing and drying apparatus.

The offices contain the department library of books and bulletins. The newest and best books on vocational education are added from time to time. About twelve thousand bulletins are carefully catalogued and classified for ready reference.

The most valuable equipment of all consists of a rural consolidated school, located conveniently on the Campus, to which the pupils are transported in improved motor buses, and a community in which can be found all the problems of a teacher of vocational agriculture. Students get by observation and participation real experience in class room and community work.

PART III
ADMISSION, EXPENSES

ADMISSION

GENERAL REQUIREMENTS FOR ADMISSION.

Entrance Blanks.—Requests for entrance blanks, and all communications in regard to admission should be addressed to The Registrar, Agricultural and Mechanical College of Texas, College Station, Texas.

Age, Health, Character.—The applicant for admission must be at least sixteen years old and physically able to perform the duties of a cadet. He must be free from contagious or infectious disease. If he comes from another college, he must present a certificate of honorable dismissal.

Vaccination.—The applicant for admission must present a certificate signed by a physician, in one of the forms given below:

1., Texas,192....

This is to certify that.....has had smallpox

(Signed), M. D.

2., Texas,192....

This is to certify that.....has been successfully vaccinated at two different times, the dates being.....

(Signed), M. D.

3., Texas,192....

This is to certify that.....has been successfully vaccinated within the last five years.

(Signed), M. D.

4., Texas,192....

This is to certify that I have today vaccinated.....

(Signed), M. D.

SCHOLARSHIP REQUIREMENTS FOR ADMISSION TO THE FOUR-YEAR COURSES.

Applicants for admission to the Freshman class who satisfy the general requirements noted above, may enter: (a) by *certificate of graduation* from an accredited secondary school; (b) by passing examinations in the entrance subjects; (c) by State teacher's certificate (in part); or (d) by individual approval. See Methods of Admission below. The scholarship requirements for admission are expressed in terms of units, a unit representing a course of study pursued five hours a week for an academic year in an accredited secondary school, constituting approximately a quarter of a full year's work.

NUMBER OF UNITS REQUIRED.

Full Admission.—For full admission to the Freshman class the applicant must present fifteen approved units of secondary school credit, obtained by one or more of the methods indicated above, of which the six units in List A, below, are prescribed. The remaining nine units must be offered from the subjects included in List B.

Conditional Admission.—The applicant who presents the six units in List A and approved units from List B sufficient to make a total of at least thirteen units, obtained by one or more of the methods indicated above, may be admitted to conditioned Freshman standing, provided the authorities of the College are satisfied from the evidence presented that the applicant is fully qualified to carry the work of the Freshman year in a creditable manner. Conditions must be removed within two years after admission, either by passing entrance examinations in subjects not originally presented for admission, or by extra work in the College. In removing conditions by college work a course carrying three term hours credit per week for one year will count as the equivalent of one unit.

Subjects and Units Accepted for Admission.

LIST A. PRESCRIBED UNITS.

| | |
|----------------------|---------|
| English | 3 units |
| Algebra | 2 units |
| Plane Geometry | 1 unit |

LIST B. ELECTIVE UNITS.

| | |
|--|---|
| English (4th unit).....1 unit | Science: |
| Mathematics: | Biology .....1 unit |
| Solid Geometry $\frac{1}{2}$ unit | Botany .....1 unit |
| Trigonometry $\frac{1}{2}$ unit | Chemistry .....1 unit |
| Advanced Arithmetic $\frac{1}{2}$ unit | General Science.....1 unit |
| | Physics .....1 unit |
| History and Civics: | Physiography $\frac{1}{2}$ unit |
| | Physiology..... $\frac{1}{2}$ or 1 unit |
| | Zoology .....1 unit |
| Ancient History .....1 unit | |
| M. and M. History.....1 unit | *Vocational Subjects: |
| English History.... $\frac{1}{2}$ or 1 unit | Agriculture..... $\frac{1}{2}$ to 4 units |
| Amer. History..... $\frac{1}{2}$ or 1 unit | Bookkeeping .....1 unit |
| Civics $\frac{1}{2}$ or 1 unit | Drawing..... $\frac{1}{2}$ to 4 units |
| Sociology $\frac{1}{2}$ unit | Com. Arithmetic..... $\frac{1}{2}$ unit |
| Economics $\frac{1}{2}$ unit | Com. Law..... $\frac{1}{2}$ unit |
| Psychology $\frac{1}{2}$ unit | Com. Geography..... $\frac{1}{2}$ unit |
| | Man. Training..... $\frac{1}{2}$ to 4 units |
| Foreign Languages: | Stenography and |
| | Typewriting.....1 or 2 units |
| Latin .....2 to 4 units | Music.....1 or 2 units |
| French .....2 to 4 units | Pub. Speaking.... $\frac{1}{2}$ or 1 unit |
| German .....2 to 4 units | Typewriting $\frac{1}{2}$ unit |
| Spanish .....2 to 4 units | |

Special Requirements.—1. In the School of Engineering students not presenting solid geometry for entrance will be required to take that subject as an extra study in the second term of the Freshman year. Special classes will be formed for that purpose.

2. In the School of Agriculture, students not presenting physics for entrance will be required to take that subject as an extra study during the Freshman year.

Freshmen who are required to take an extra study may find it necessary to postpone one of the regular studies of the Freshman year. For this reason prospective students are urged to include solid geometry and physics in their high school course.

METHODS OF ADMISSION TO THE FOUR-YEAR COURSES.

The units required for admission to the Freshman class may be secured:

- By certificate of graduation from an accredited secondary school,
- By examination,
- By State teacher's certificate,
- By individual approval,

Or, by a combination of the above methods.

*Not more than 4 units of vocational work will be accepted for admission.

(A) *By Certificate of Graduation from an Accredited School.*

Admission to the Freshman class by certificate will be granted to graduates of accredited secondary schools who present credentials certifying to their age, character, scholarship and graduation, *provided the subjects certified have been approved by the State Department of Education and cover the entrance requirements.* This certificate must give in detail concerning each subject which the applicant has studied in the school, the length of time in weeks, the number of recitations per week, and the grade or mark indicating his proficiency. Blank certificates may be had upon application to the Registrar.

If the number of units to which the certificate entitles the holder is less than the number required for admission, the deficiency must be made up by examination.

In the matter of admission to the Freshman class by certificate, no credit will be given for work done in an accredited school unless the applicant is a graduate of the school.

It is of the highest importance that the applicant send his certificate, properly filled out, to the Registrar in advance. If this cannot be done, he should bring it with him at the opening of the session. Without the certificate he cannot be admitted, and valuable time will be lost if he has to send for it after reaching College Station.

Accredited Schools.

The list of accredited schools prepared by the State Department of Education is official for this College.

The College will admit also, without examination, such graduates of schools fully accredited by the State universities of other States as comply with the requirements for admission indicated above.

(B) *Admission by Examination.*

Any or all of the scholarship requirements may be met by passing the entrance examinations.

The spring entrance examinations are held in May, under the supervision of the State Department of Education. These examinations are conducted in each county by the county superintendents, and the papers are sent to the State Department of Education to be graded. On the basis of these papers uniform Entrance Certificates are issued, which will be accepted for admission to any Texas College, provided the subjects certified cover the entrance requirements of the college to which application for admission is made. Under this system students are allowed to take examinations at the close of each high school year, in the subjects studied during that year, so that at the end of three or four years of high school work they should have from ten to fifteen entrance credits. Further information regarding the spring entrance examinations may be obtained from the State Department of Education, Austin.

Fall entrance examinations will be held at the College Thursday, Friday and Saturday, September 14, 15 and 16, 1922, under the supervision of the College authorities, and will cover all the subjects required or accepted for admission, as outlined above.

SCHEDULE OF FALL ENTRANCE EXAMINATIONS.

Note: Acceptable laboratory note books must be presented in connection with the examinations in science subjects.

| Hour. | September 14. | September 15. | September 16. |
|-------|-------------------------------------|--|---|
| 8-10 | Algebra, Agriculture, Sociology. | Plane Geometry, Physiology. | Solid Geometry, Trigonometry, Drawing. |
| 10-12 | Botany, English, Manual Training. | Physics, Latin, Stenography and Typewriting. | American History, Book-keeping, Com. Arith. |
| 1- 3 | Ancient History, Physiology. | M. and M. History, Biology, Psychology. | English History, General Science, Com. Law. |
| 3- 5 | Civics, Chemistry, Public Speaking. | French, Adv. Arithmetic, Economics. | German, Spanish, Zoology, Com. Geog. |

(C) Admission by State Teacher's Certificate.

Applicants holding a *first-grade* State teacher's certificate, or a high school certificate of the second class, obtained by examination, may receive entrance credit not to exceed nine units, depending upon the subjects in which examinations were taken to secure the certificate. The remaining units necessary for full or conditional admission must be made up by passing entrance examinations in other subjects, included in Lists A and B, above.

Applicants holding a *permanent* State teacher's certificate obtained by examination may receive entrance credit not to exceed thirteen units, subject to the conditions that govern the granting of credit to holders of first-grade certificates.

(D) Admission by Individual Approval.

An applicant over twenty-one years of age, who has not recently attended school, and who cannot otherwise satisfy the entrance requirements, may be admitted to the Freshman class without examination, subject to the following regulations:

(1) He must make application on the official entrance blank.

(2) He must furnish evidence that his preparation is substantially equivalent to that required of other applicants, and that he possesses the ability and seriousness of purpose necessary to pursue his studies with profit to himself and to the satisfaction of the College.

(3) He must show, by a test in composition, that he has an adequate command of the English language.

The applicant should forward his credentials to the Registrar in advance of his coming, but in no case will he be admitted without a personal interview.

A student admitted by individual approval will not be considered

a candidate for a degree until he has satisfied the entrance requirements. Upon completion of English 103-104 such student will be given credit also for three entrance units in English; upon completion of Mathematics 101-102, 103 and 104 he will be given credit for two entrance units in algebra and one in plane geometry. For each additional Freshman and Sophomore subject passed with a grade of B or A, a credit of one entrance unit will be given. At the end of the Sophomore year such additional units as are needed to satisfy the entrance requirements in full must be made up by taking entrance examinations.

ADMISSION TO ADVANCED STANDING.

Admission to advanced standing may be granted under the following conditions:

(1) The applicant must submit a letter of honorable dismissal from the institution last attended.

(2) A certificate of preparatory work, covering the entrance requirements of this College must be presented.

(3) An official transcript of the record of all work done in institutions previously attended must be submitted, together with a marked catalogue showing the courses referred to in the transcript.

On the basis of these credentials credit will be given in this College in so far as the work previously completed is equivalent in character and extent to subjects included in the course of study pursued here. Credits given by transfer are provisional and may be cancelled at any time if the student's work in this College is unsatisfactory.

It is essential that all credentials be forwarded to the Registrar in advance.

College credit for work done in secondary schools will be given only on the basis of examinations at the College, and shall not include work presented in satisfaction of the entrance requirements.

ADMISSION OF SPECIAL STUDENTS.

At the discretion of the Dean of the College, a limited number of young men over twenty-one years of age may be admitted to the College as special students, subject to the following regulations:

1. The applicant must show good reason for not taking a regular course, and must submit satisfactory evidence that he is prepared to profit by the special studies he wishes to pursue.

2. A record of his preparatory work must be submitted on the official entrance blank, and must be accompanied by a statement showing (a) his experience; (b) a plan of study, enumerating the studies he desires to pursue; and (c) the purpose or end expected to be accomplished by his study.

3. In order to be admitted to the work of any department, a special student must secure the consent of the head of the department; and

his course of study, as a whole, must be approved by the Dean of the College.

Special students are subject to the rules and regulations governing regular students, and are required to take the prescribed theoretical and practical military training.

A special student who may desire to become a candidate for a degree must satisfy the entrance requirements and obtain the consent of the Dean of the College.

It is the theory of special classification that students should be particularly strong and well prepared to do thorough work in the studies selected. A high standard of scholarship will, therefore, be required of all who are thus classified.

REQUIREMENTS FOR ADMISSION TO THE TWO-YEAR COURSES.

1. The minimum age for admission to a two-year course is 18 years, except in the case of graduates of non-accredited schools, who may be admitted at the age of 16 years.

2. The applicant must present a certificate showing the satisfactory completion of the tenth grade of a classified school, or its equivalent. He must also present satisfactory certificates in regard to health, character and vaccination, as in the case of candidates for admission to the four-year courses. *The completion of one of these two-year courses does not prepare the student for admission to a four-year course.*

3. The two-year courses are not open to candidates who are qualified to enter a four-year course.

REGISTRATION.

Upon arrival at the College, young men intending to enter will report at once to the Commandant's office for full information in regard to registration.

SESSION.

The session begins on the third Wednesday in September and extends through thirty-seven weeks.

Monday, Tuesday, Wednesday and Thursday, September 18, 19, 20 and 21, will be devoted to the registration of students. Recitations will begin Friday, September 22.

EXPENSES.

REGISTRATION FEE.

Every student is required to register when he first enters the College and thereafter at the beginning of each term.

Upon registering for the first time he is charged a registration fee of five dollars. He pays this fee only once unless his connection with the College should later be severed; in that case he must pay the registration fee again in order to re-enter.

LATE REGISTRATION.

All students, except those registering for the first time, who do not complete their registration on the days set for that purpose, will be charged a fee of five dollars for late registration.

In the case of irregular and special students, registration is not complete until their assignment cards are returned, properly signed, to the Registrar.

EXPENSES FOR THE SESSION.

The fixed charges are:

| | | |
|---|---------|----------|
| Trust fund, payable on entrance..... | \$ 5 00 | |
| Incidental fee, payable on entrance..... | 10 00 | |
| Medical fee, payable on entrance..... | 10 00 | |
| Student activities fee..... | 15 00 | |
| Maintenance fee, first term, payable on entrance..... | 125 00 | |
| | | <hr/> |
| | | \$165 00 |
| Maintenance, second term, payable February 3..... | | 120 00 |
| | | <hr/> |
| | | \$285 00 |

Other necessary expenses are:

| | | |
|--|----------|----------|
| Uniform, payable on entrance, about..... | \$ 78 50 | |
| Books, from \$15 to..... | 25 00 | |
| Laboratory fees, averaging about..... | 10 00 | |
| Fee for delivering baggage..... | 1 00 | |
| | | <hr/> |
| | | \$114 50 |
| | | <hr/> |
| Total | | \$399 50 |

For Freshmen in the engineering courses, drawing instruments, about \$15.

The new student will need at entrance approximately \$300.

Payment.—Payment should be made by bank exchange, money order, or in cash. Personal checks will not be accepted.

Payment for each term must be made in advance. A student entering during a term will be charged maintenance for the remainder of that term only.

Deductions.—No deductions will be made for entrance within 15 days after the opening of a term, nor will there be any refunds for the last 15 days of a term or the last 15 days paid for.

Trust Fund.—The trust fund is to pay for property damaged or destroyed, and will be returned to the parent if there is no charge of this kind against the student, or if he is not otherwise indebted to the College. If charges amounting to 50 per cent of the trust fund deposit are made against a student during the session, he will be required to make an additional deposit covering the total charges made against him.

Incidental Fee.—The incidental fee is used for sundry incidental expenses, such as printed forms, examination books, etc.

Medical Fee.—The medical fee covers the professional services of the College Surgeon and the hospital staff. The medical fee for the second term is one-half the medical fee shown above.

Student Activities Fee.—The student activities fee is for the support of student activities, and by a practically unanimous vote of the student body this fee has been fixed at \$15. This fee is paid at registration along with other fees, but it is not compulsory. A student entering after the Christmas holidays will pay only \$9.25. On payment of this fee a student is entitled to be admitted to all intercollegiate and interscholastic contests held at College Station, to receive a copy of the Longhorn, the college annual, and one annual subscription to the Battalion, the student college publication, throughout the scholastic year.

No Refund.—Incidental, medical, and registration fees will in no case be refunded.

Maintenance Fee.—Maintenance includes board, fuel, laundry, light, room rent, single bedsteads, mattress, tables, washstands, chairs.

Each student is required to keep on hand a supply of bed clothing for single beds, towels, etc.

Laboratory Fees.—The laboratory fees cover in part the cost of materials used by the student in his laboratory work. The total amount of these fees varies according to the classification of the student. The fees for the several courses are listed under "Courses of Instruction by Departments." They are payable during registration, at the beginning of each term.

Uniform Deposit.—The deposit of \$78.50 for uniform is not required of Juniors and Seniors who are not members of the R. O. T. C.

Forfeiture on Withdrawal.—A student once entering for a term, and having paid for that term, or the balance of it, forfeits all claim to said payment in case of voluntary withdrawal from the College before the expiration of said term, *except in case of sickness disqualifying him for the discharge of his duties for the rest of the term.* When such sickness takes place at the College, it must be attested by the College

Surgeon before the student can receive the balance of his maintenance fund.

Graduate Students.—The expenses of a graduate student are \$25 for registration fee, incidental fee and medical fee, with charge for maintenance as above.

Day Students.—Day students pay \$30, to cover registration fee, trust fund, incidental fee, and medical fee as above.

Officers of the College.—Officers of the College taking courses of instruction pay the registration fee, \$5.00, and the incidental fee, \$10.00.

Deposits.—Deposits may be made with the Fiscal Department. Depositors will draw their money by giving receipt direct to the Fiscal Department as money is required. Deposits and withdrawals must be given in even dollars.

Checks.—A graduated collection fee will be charged on all out-of-town collections, except bank exchange, postal money orders and express money orders. Checks or drafts that have been altered in any way will not be accepted.

Unpaid Checks.—If a check or draft accepted by the Fiscal Department for collection is returned unpaid by the bank on which it is drawn, the student presenting it will be required to pay a fine of \$3.00. If this fine and the amount of the check are not paid within seven days after notice is sent from the Fiscal Department, the student will be required to withdraw from College.

Duplicate Receipts.—A fee of 50 cents will be charged for duplicate receipts.

UNIFORM.

Every cadet must keep on hand and in good condition one regulation, olive drab woolen serge blouse, one pair olive drab woolen serge breeches, one regulation olive drab cap with ornament, one regulation service hat with silk cord, two olive drab woolen shirts, two olive drab cotton shirts, two white shirts, cuffs and soft rolled collar attached, two pairs tan leather shoes, one regulation black four-in-hand tie, one regulation waist belt, one regulation Sam Browne belt, one pair spiral leggins, two pairs cotton khaki breeches, one set collar ornaments, one pair lapel insignia, three R. O. T. C. shields, one gold star, one working suit and an ample supply of underwear.

In the interest of comfort and economy every cadet is advised to provide himself with the regulation O. D. overcoat.

PART IV
COURSES OF STUDY

COURSES OF STUDY.

There are thirteen regular courses, extending through four years; eleven of them lead to the degree of Bachelor of Science, the particular course pursued being specified in the diploma; the course in Veterinary Medicine leads to the degree of Doctor of Veterinary Medicine; and there are graduate courses and short courses as shown below.

REGULAR COURSES.

- I. Course in Agriculture.
- III. Course in Mechanical Engineering.
- IV. Course in Civil Engineering.
- V. Course in Electrical Engineering.
- VI. Course in Textile Engineering.
- VIII. Course in Chemical Engineering.
- IX. Course in Architecture.
- X. Course in Science.
- XI. Course in Veterinary Medicine.
- XII. Course in Agricultural Education.
- XIII. Course in Industrial Education.
- XIV. Course in Agricultural Administration.
- XV. Course in Agricultural Engineering.

GRADUATE COURSES.

(A) Graduate courses leading to the degree of Master of Science, in Agriculture, in Agricultural Education, in Architecture, or in Veterinary Science.

(B) Graduate courses leading to the degree of Chemical Engineer, Civil Engineer, Electrical Engineer, Mechanical Engineer.

TWO-YEAR COURSES.

- (C) Course in Agriculture.
- (H) Course in Textile Engineering.
- (M) Course in Agricultural Engineering.
- (N) Course in Engineering.

EIGHT WEEKS' COURSE.

Course in Automobiles and Tractors.

THE SCHOOL OF AGRICULTURE.

In the School of Agriculture there are offered the following courses:

REGULAR FOUR-YEAR COURSES.

Course in Agriculture.
Course in Agricultural Administration.
Course in Agricultural Education.

TWO-YEAR COURSES.

Two-year Course in Agriculture.
Two-year Course in Agricultural Engineering.

SHORT COURSE.

Eight Weeks' Course in Automobiles and Tractors.

COURSE IN AGRICULTURE.

The regular four-year course has as its main object the preparation of young men for the business of farming, for the pursuit of scientific investigation along some line of agriculture, for becoming county demonstration agents, or extension workers, for specialists in landscape art and for teaching in the high schools and agricultural colleges. It also affords excellent preparation for young men who intend to follow business pursuits, especially for merchants and bankers. Systematic training is given in the sciences of biology, chemistry, entomology and geology, which are fundamental to the study of scientific agriculture, and in technical subjects, covering the main divisions of agriculture, including agricultural engineering, agronomy, animal husbandry, dairy husbandry and horticulture. As shown in the curriculum, the work in the Junior and Senior years is arranged so as to provide for a choice by the student of one of eight groups of studies. This arrangement affords the student a wide range of subjects from which to choose his major work, permitting him to specialize in agricultural chemistry, agricultural education, agricultural engineering, agronomy, animal husbandry, dairy husbandry, horticulture, or in landscape art.

As will be noted, certain studies are common to all the groups; and in each group a part of the work is elective. The choice of groups is to be made by April 15 of the Sophomore year.

COURSE IN AGRICULTURAL EDUCATION.

The purpose of the course in Agricultural Education is to prepare men to teach agriculture in secondary schools and to administer and supervise vocational agriculture such as is carried on under the Smith-Hughes Act. The fundamental principles in the main divisions of

agriculture, and a minimum of professional training and practice teaching are required. Considerable opportunity is given the student by means of the electives for choice of subjects. In case of students transferring from other institutions and entering the course in Agricultural Education, the electives are not limited to the courses offered by the School of Agriculture. Such credit and classification will be given as the facts may warrant. Agricultural students who have completed the junior year in the State Normal Schools, and graduates of the Junior Agricultural Colleges can transfer to this course with little or no loss of time.

Graduates of approved institutions having satisfactory training in the sciences underlying the study of agriculture will be awarded the degree of Bachelor of Science in Agricultural Education upon satisfying the following requirements: forty-five term-hours of technical agriculture as approved by the Professor of Vocational Teaching, fifteen term-hours of professional subjects as prescribed in the curriculum, and at least a year's residence. Candidates for admission under this provision must present their credits in advance.

The great demand for skilled teachers and administrators of vocational agriculture in every State should make this course appeal to young men with good science training, farm experience, and successful experience in teaching and administering schools.

COURSE IN AGRICULTURAL ADMINISTRATION.

The course in Agricultural Administration is designed primarily for those interested in the business and social side of agriculture and of country life, rather than in the purely productive side.

It offers students the opportunity to prepare themselves for work as business farmers or stockmen; specialists in the several aspects of marketing; extension workers; agricultural statisticians; business enterprises related to agriculture, such as that of the banker, hardware dealer, grain dealer, cotton warehouse superintendent, farm manager, rural social worker, minister; and teacher of rural economic and social science. The course is designed further to serve the needs of those who might be interested in the knowledge of our rural resources in relation to their economic utilization.

The work of the Freshman year is prescribed. For the subsequent years the course is divided into three groups, which are designated, respectively, as Agricultural Economics, Rural Sociology and Farm Management.

TWO-YEAR COURSE IN AGRICULTURE.

This course is intended for young men who wish to spend one or two years in preparing to go back to the farm and apply the more important scientific methods of farming which have been worked out in recent years. To this end the course is made highly practical and includes much of the technical work required in the four-year course. In the

first year, the studies are all prescribed; in the second year, they are elective. The electives must be chosen under the advice and direction of the Dean of the School of Agriculture. Students who have had approved farm experience will, upon completion of this course, be awarded certificates.

TWO-YEAR COURSE IN AGRICULTURAL ENGINEERING.

This course is designed, primarily, to meet the needs of the student who wishes to specialize in the engineering side of agriculture. It will especially prepare students for farm work where a great deal of machinery and equipment is used and for the farm implement and tractor business.

The use of improved farm machinery, gas engines, tractors, and engineering as applied to agriculture, is becoming of greater importance each year in the development of the agricultural interests of the State.

Students who have an aptitude for mechanics and who are interested in agriculture will find this course well suited to their needs.

EIGHT WEEKS' COURSE IN AUTOMOBILES AND TRACTORS.

The object of this course is to prepare men to become operators of tractors and tractor-operated machinery, or to become tractor, automobile and motor truck mechanics. The course is intensely practical.

The subjects covered are single cylinder gas engines, tractors, chassis, babbitting, soldering, acetylene welding, electrical ignition, starting and lighting, multiple cylinder motors, repair, adjustment and troubles.

Admission Requirements.—In order to enter this course the applicant must be at least eighteen years of age; it is desirable, though not required, that he have a grammar school education. He must present a certificate from some reliable person, showing that he is in good standing in the community from which he comes.

During the summer session the minimum age requirement for this course is 16 years.

Expenses.—The fixed charges are:

| | |
|---|---------|
| Incidental fee | \$ 5 00 |
| Medical fee | 5 00 |
| Maintenance, including board, room, lodging and laundry | 56 00 |
| Laboratory fee | 60 00 |

Total\$126 00

(The charges for this course are subject to change due to variation in cost of maintenance and operating expenses.)

Registration Dates.—New classes in this course are formed about

every two weeks. The first course for the session 1922-23 will open September 20. Students should notify the Registrar of their intention of entering some time in advance of the opening date. For special circular describing this course write the Professor of Agricultural Engineering.

Advanced Work.—Students who have completed the eight weeks' course and who wish to specialize in one of the branches of the eight weeks' course may do so by taking special work for four or eight weeks. The fees for this work will be at the same rate as those of the regular eight weeks' course.

Students may enroll for this advanced work on the approval of the Dean of the College and of the head of the Agricultural Engineering Department.

THE SCHOOL OF ENGINEERING.

COURSES OF STUDY.

In the School of Engineering there are offered the following courses:

REGULAR FOUR-YEAR COURSES.

Course in Agricultural Engineering.
Course in Architecture.
Course in Chemical Engineering.
Course in Civil Engineering.
Course in Electrical Engineering.
Course in Mechanical Engineering.
Course in Textile Engineering.
Course in Industrial Education.

TWO-YEAR COURSES.

Two-year Course in Engineering.
Two-year Course in Textile Engineering.

COURSE IN AGRICULTURAL ENGINEERING.

The course in Agricultural Engineering is designed to give the student an engineering training with an agricultural viewpoint. A thorough grounding in fundamental engineering principles is given, as much time is devoted to purely agricultural subjects as possible, and the application of engineering to agriculture receives its share of attention.

The need of such engineers is being felt more and more each year as the demand grows for farms to be better equipped with power machinery, farm buildings and home conveniences and more land to be reclaimed by drainage, irrigation and clearing.

Graduates of this course are prepared for service in the following lines: with the colleges and government in teaching, extension and Experiment Station work; with manufacturers of farm machinery, gas engines, tractors, other farm equipment and farm buildings, in advertising, sales and designing work; with engineering and contracting firms doing irrigation work and drainage work; and with farm and trade journals.

COURSE IN ARCHITECTURE.

The course in Architecture is planned to give a thorough training in the arts and sciences which form the foundation work necessary for the design and construction of buildings. Practice courses are arranged to go hand in hand with the theory taught, serving to fix in the student's mind the proper application of theory to practical problems and also preparing him to become upon graduation of immediate usefulness as an architect's assistant.

The course is arranged in two groups: Group 1, General Course; Group 2, Structural Course. The Freshman year is the same in both groups, while the Sophomore, Junior and Senior years are arranged, in the General Course, to give a broad general training in design and construction, with special emphasis placed upon design; and, in the Structural Course, to give a minimum of pure design and a maximum of theory and practice in the structural side of building.

Students possessing an aptitude for arrangement, proportion and harmony are advised to elect the General Course, while those who are inclined more to mathematics and the engineering side of building are advised to elect the Structural Course.

Graduates in Architecture find positions as draftsmen, designers, superintendents or general assistants in architects' offices; in the architectural and engineering departments of railway and business corporations; in construction companies in the Civil Service of the government, and in State and municipal employment. Three to four years of progressive practical experience should fit the young architect to enter the active practice of his profession. Ability, integrity, tact and resourcefulness will be the determining factors in his success. Modern building is an extremely complicated industry and the duties of the architect, as the designer and adviser in building operations are exacting and complex. One man cannot be expert over the whole field, and hence partnerships are desirable. It might be pointed out that the two courses of study given in this department naturally lead to the formation of partnerships between individuals of the two groups.

COURSE IN CHEMICAL ENGINEERING.

This course is designed to prepare young men for technical work in those industries in which raw materials undergo a chemical change in the process of manufacture. Many fields are open to students trained in applied chemistry, and inquiries are continually being received asking for men capable of filling important positions in different industries. Some industries important to the present and future development of this State are those dealing with cotton seed products, sugar, leather, petroleum, cement, ceramics, and iron and steel. The analytical chemistry given in the course is sufficient to enable the graduate to engage in the work of a commercial plant or to enter an industrial plant as a control chemist. The control chemist repeatedly analyzes and evaluates the raw material used in the manufacture as well as the intermediate and finished products. It is through such control that industries of this kind have been made scientific. Pure food laws and other legal enactments calculated to protect the people against fraud have, of late years, greatly accentuated the importance of this work. At the same time enough work is given in general engineering practice to enable the graduate who enters the works as a control chemist to come in time to a full understanding and mastery of the industry in which he is engaged.

The fifth year's work, leading to the degree of Chemical Engineer, is designed to facilitate the transformation of the control chemist into the manager of an industrial plant, capable of adapting chemical processes of varying conditions and improving upon them as occasion demands.

COURSE IN CIVIL ENGINEERING.

The course in Civil Engineering has for its object the thorough grounding of young men in the underlying principles of engineering as a preparation for their technical work after graduation. The fundamentals of good citizenship are also stressed as these concern the future relationships of practicing engineers to their surroundings. As many special lines are touched on as time will permit. Preliminary field and office work, specification and contract writing, the letting of contracts, supervision of construction, the preparation and presentation of designs and reports, etc., are all treated in as much detail as possible in the time available. The course is divided into two groups: (1) General civil engineering, and (2) highway and municipal engineering.

The objectives of the general civil engineering course are many and varied. Among them may be mentioned professional practice in surveying, water supply, sewerage and sewage disposal; railway location, construction and maintenance; the design and construction of dams, reservoirs, irrigation systems, pumping plants, drainage and navigation canals, wharves and docks, levees, river regulation; foundations, masonry structures, steel and reinforced concrete bridges, steel and reinforced concrete building construction and others.

Graduates in the highway and municipal engineering group are prepared for service in the highway departments of States, counties, road districts, city engineering departments, with consulting engineers, contractors engaged in road and pavement construction, road machinery supply houses, waterworks and sanitary engineers and contractors, etc.

A well equipped laboratory for the study of bituminous pavements and paving materials affords not only a means of up-to-date instruction for students, but opportunity for co-operative work with cities in the investigation of their pavements and available paving materials. Connected with it is an excellently equipped testing laboratory for non-bituminous road materials.

The fifth year's work, leading to the degree of Civil Engineering (C. E.), offers opportunity for more advanced study in some of the branches of civil engineering than can be had within the limits of the four-year course. Every student who can afford the time and money is urged to follow his four-year course, when possible, with the more technical work of the fifth year.

On page — there is given a list of courses from which the fifth-year student will ordinarily be expected to select his studies, but the subjects selected must be such as to form a consistent group. In so far as practicable the subjects approved will be such as will best fit the needs of each particular candidate for the advanced degree.

COURSE IN ELECTRICAL ENGINEERING.

The course in Electrical Engineering is designed to give the student a thorough training in the underlying principles of direct and alternating current phenomena and of electric measurements. It provides training in subjects fundamental to the general practice of the engineering profession, in the theory of electricity, and in the application of the theory to practical problems in many branches of engineering.

The work of the first three years of the course is intended to cover most of the fundamental principles of engineering. This is followed in the senior year by a more detailed study of the application of these principles. The applied subjects are taught with two objects, the first and more important of which is to impress more firmly on the student's mind the principles already learned. The second object is to give the student specific information about some branch of electrical engineering.

Electrical Engineering presents broad opportunities for the young man trained to meet its needs. A few of the fields into which he may enter are outlined below:

The electric power plant in a community has come to be considered the source of energy not only for the lighting of the buildings and streets, but for the operation of all kinds of machinery ranging in size from the largest factory to the sewing machine and the vacuum cleaner. It has come to be recognized that technically trained engineers are needed not only for the more highly technical positions in the organization of the central stations, but that by virtue of their technical knowledge they are also best qualified for practically every position of responsibility in such organizations.

The utilization of electrical energy by manufacturing organizations has necessitated the employment of electrical engineers to design the installation of the electrical machinery and supervise it when it is in operation.

The electric railway industry is another field in which electrical engineers are required, and the electrification of steam railroads has created a demand for electrical engineers to supervise the electrical equipment used in the production of the power and operation of the trains. The electrification of railroads is in its infancy but the decided gain in efficiency from operating with electricity instead of steam will cause a steady increase in the number of roads to be electrified.

The telephone and telegraph companies have always used a limited number of electrical engineers but with the greater complexity of electrical devices which are displacing the simpler systems, trained engineers are in demand not only for the more highly specialized positions, but also for administrative and executive positions where a knowledge of electrical engineering is becoming important. Radio engineering is a new field for electrical engineers which, while comparatively new, bids fair to become of considerable importance.

Many electrical engineers are needed in organizations engaged in the manufacture of electrical machinery and in its sale and erection.

There are a great many other subdivisions such as that of the illuminating engineer, the signal engineer, the battery engineer, and a score of others which offer excellent fields for men with proper training.

The course is outlined with a view to giving a young man such fundamental principles of electrical engineering and such mental development and faculty of analysis, as will enable him to rise to a position of responsibility in any one of the principal fields of electrical engineering.

A Signal Corps unit of the Reserve Officers' Training Corps has been established at the College, and electrical engineering students who elect to become members of this unit have an opportunity to receive thorough instruction in telephone, telegraph and radio engineering in addition to their other engineering work. For use in the Signal Corps work, the government has supplied a complete assortment of modern equipment.

A branch of the American Institute of Electrical Engineering has been organized among the students and affords the means of keeping students in touch with the latest development in the electrical field.

COURSE IN MECHANICAL ENGINEERING.

The course in Mechanical Engineering is designed with a view of giving the student such training as will fit him to design, construct and erect machinery, power and industrial plants, equipment, etc., and to manage or to operate the same with the greatest economy of labor and materials.

It is not possible to give the student that skill in the shops and that experience in the laboratories which come with long service in practical work, but the aim is to give him the power to understand and apply the underlying principles which are involved in all problems met with in practical engineering.

When it is remembered that there is a steam power plant or other mechanical equipment connected with practically every industrial enterprise it is apparent that the graduates from the course in Mechanical Engineering should find a large field for their activities in the industrial development of the State. While the chief aim of the curriculum is to give a thorough grounding in the fundamentals it is possible for the student, by group selection in his senior year and by selection of his electives, to specialize along the lines of his choice. The group arrangement of the senior year enables the student to specialize in power plant work, in transportation and railway mechanical engineering, or in factory management and industrial engineering. The electives enable the student to specialize in cotton seed oil industry, or in petroleum industry. The training at the College, followed by a few years' contact with the practical work, should fit one to take charge of the operation or of the management of almost any industrial enterprise whether strictly mechanical engineering or involving other activities as well.

Included in the field of the graduate from this course are railway motive power, automotive, and marine transportation, refrigeration, steam and oil engine power equipment, heating and ventilation, iron and steel production, and fabrication, machine tool industry, lumber production and utilization, factory management, production and refining of petroleum, and almost unlimited other lines.

COURSE IN TEXTILE ENGINEERING.

The object of this course is to prepare young men for entering the field of cotton manufacturing. The unprecedented development of the cotton milling industry in the South has brought about an era of prosperity and created a strong demand for educated young men in this industry. The State of Texas offers excellent advantages for the manufacture of cotton goods in its vast supply of raw material, intelligent labor, and excellent climatic conditions, and it is believed that cotton manufacturing will develop as rapidly as skilled and capable managers familiar with local conditions are to be had. The studies outlined have been selected with a view of giving theoretical and practical training in the manufacture of cotton goods as thorough as is possible in the time available.

Graduates from this course are prepared to enter the cotton mills to operate any machinery. After a study of labor conditions and requirements they are in line for positions of overseers, superintendents and managers. Graduates may also find employment in the fields of mill engineering and architecture, installation of equipment, dyeing and the sale of machinery and supplies.

COURSE IN INDUSTRIAL EDUCATION.

The course in Industrial Education has for its main purpose the preparation of teachers of related subjects as prescribed for industrial education under the Smith-Hughes Act. Graduates of this course will be prepared not only to teach related subjects but to teach the regular shop work ordinarily given in the high schools of the State, and to direct or supervise industrial education in large city school systems. The course requires contact with a wide range of trades through its shop work and a liberal education in science, mathematics, history, English, etc. Thorough preparation in the art of teaching and supervising is afforded. The wide range of electives permits the student to specialize in some trade, or to do more extensive work in a wide field.

The State plans for requirements of teachers of related subjects in classes using Federal funds under the provisions of the Smith-Hughes Act specify that the teacher must have had at least 880 hours of experience in at least two trades. This is to insure adequate contact with shops operated on a commercial basis. Students in this course are expected to get this experience through summer work following the sophomore year and the junior year. The Department of Vocational Teaching will assist in arranging for this work.

TWO-YEAR COURSE IN ENGINEERING.

This course is intended for those who are unable to take a four-year course but who wish to prepare themselves for positions of responsibility along engineering lines.

The course is designed particularly for young men who have had some practical experience in a power house or in electrical work and who wish to add to their theoretical knowledge of the fundamentals of steam engineering and electricity. The entrance requirements are made low to allow any deserving applicant to enter but any additional preparation or training will enable him to profit more from his course.

TWO-YEAR COURSE IN TEXTILE ENGINEERING.

The two-year course in Textile Engineering is intended for young men who wish to take up the work of cotton manufacturing and cannot spend more than two years in preparation.

The aim is to prepare young men for responsible positions in a cotton mill after a short term of apprenticeship. A limited number of students taking this course will be given employment during their vacant periods in operating the equipment of the department, which is turning out a commercial product. In this way students are encouraged to devote a good deal more time to the operation of the machinery, which should better fit them for their career in the mill and at the same time help to pay their expenses in college. Certificates will be given students who complete the work as outlined.

Students completing this course are fitted in a limited way for the same fields that are open to graduates. They will be very much restricted in the field of dyeing and mill engineering and architecture.

THE SCHOOL OF VETERINARY MEDICINE.

COURSE IN VETERINARY MEDICINE.

This course has for its object the systematic training of young men in all matters pertaining to diseases of domestic animals.

The freshman and sophomore years are, in large measure, devoted to those physical and biological studies that contribute so much to an understanding of the problems of health and disease. The junior and senior years are almost entirely devoted to studies of a technical nature.

Those who expect to engage in ranching, dairying or some other branch of animal industry will find the course of great value to them in preventing serious losses from disease or mismanagement of their animals. Those who possess a biological mind will find it an interesting life study, and such men are in great demand in matters of public health or as investigators in Experiment Stations. Those who pursue the course from commercial motives will find its rewards are similar to those of any other form of human endeavor in that these will always be in proportion to the intelligence and energy displayed by the individual.

When it is recalled that the value of domestic animals in Texas is about five hundred million dollars, it becomes apparent that men informed on such matters will be of great value to the State.

COURSE IN SCIENCE.

Administered by the Dean of the College.

The course in science is planned to provide a broad training in natural sciences, including biology (bacteriology, botany, zoology), chemistry, entomology, geology, and physics; and to impart a familiarity with the methods of science.

A considerable part of the curriculum is devoted to such general studies as economics, English, history, mathematics and sociology, which are essential to a liberal education; and there is correspondingly less emphasis on the vocational or professional aim.

Graduates of this course should be qualified to take up scientific work in the service of the State or Federal Departments of Agriculture or of Agricultural Experiment Stations; to enter upon advanced work along scientific lines; or to become teachers of science in secondary schools.

The course also affords an excellent preparation for the study of medicine.

GRADUATE COURSES.

Administration.—The regulations concerning graduate studies and all matters relating thereto are administered by the Committee on Graduate Studies.

Advanced Degrees.—The College offers graduate courses leading to advanced degrees as follows: Master of Science (M. S.), Chemical Engineer (Ch. E.), Civil Engineer (C. E.), Electrical Engineer (E. E.), Mechanical Engineer (M. E.).

Admission.—In order to be admitted to a course of study leading to an advanced degree, the candidate must satisfy the following requirements:

1. He must be a graduate of this College or of some other institution approved by the Faculty.
2. His undergraduate work must be of such high order as to satisfy the committee that he is qualified by native ability and by training to pursue graduate studies with profit and with credit. In case his undergraduate work does not fully meet this requirement, the committee may require the completion of additional undergraduate work with a grade of at least B.

Application should be made in advance to the chairman of the committee, and in case the candidate comes from another institution, his application must be accompanied by a complete transcript of his undergraduate record, properly certified.

Registration.—Graduate students must register at the beginning of each term at the office of the Registrar.

Studies.—(a) For the degree of Master of Science in Agriculture or in Agricultural Education or in Veterinary Medicine the candidate must choose from the graduate courses listed under the several departments, a major subject and two minor subjects; his choice to be subject to the approval of the heads of departments concerned and of the committee. For each hour of theory the student will be expected to devote to preparation six hours for the major subject and three hours for each minor subject.

(b) For the advanced degrees in engineering and in architecture the courses of study are shown under "Curricula."

Residence.—Advanced degrees will not be conferred except after a residence of at least one year at the College. For candidates engaged in teaching or other regular employment, the period of residence will be increased to such extent as the committee may determine.

The residence requirement may be satisfied by residence during three summer sessions of twelve weeks each.

The number of graduate courses offered in the Summer Session is limited, and application should be made at least one month in advance.

Amount of Work.—The amount of work required for an advanced

degree is reckoned as the equivalent of the student's full time for one academic year.

Quality of Work.—In order to be allowed to go on with his course a graduate student must give continued satisfaction in his work.

Thesis.—The candidate must submit a thesis, which shall be based upon his work in the department in which he takes his leading subject. Its title must be submitted to the committee through the head of the department in which it is to be written for approval by November 15. In matter and style the thesis must be acceptable to the head of the department in which it is written and to the committee. It must show that the candidate has the ability to do independent work; and, by correct citation of authorities, must show that he has satisfactory acquaintance with the literature of his field.

The thesis must be typewritten on paper $8\frac{1}{2}$ inches by 11 inches; two weeks before commencement it must be presented to the committee in completed form ready for binding. Before the degree is conferred a bound copy for the College library must be deposited with the chairman of the committee.

Examinations.—The candidate must pass satisfactory examinations upon the work of his course. These examinations may be oral or written, or both, and shall be open to the committee and to members of the Faculty.

Reports.—Heads of departments will make reports to the Registrar at the end of each term on all graduate work done in their respective departments; and such other reports on the progress of their graduate students as the committee may request.

Special Committee.—The instructors under whom a graduate student takes work shall constitute a special committee to direct and advise him concerning his work and to represent him before the Committee on Graduate Studies. The instructor in charge of the leading subject shall be chairman of the special committee in each case.

Graduation.—Candidates for advanced degrees who expect to complete their work at the end of a given term must give written notice to the chairman of the committee to that effect at least three months in advance. When a candidate has to the satisfaction of the Committee on Graduate Studies completed the requirements for an advanced degree he will be recommended to the Faculty for his degree. The diploma fee is \$7.50.

WORKING FELLOWSHIPS IN THE EXPERIMENT STATION.

With the approval of the committee, a graduate student holding an appointment to a working fellowship in the Agricultural Experiment Station may take part of his work for the degree of Master of Science under the head of a division of the Agricultural Experiment Station. The holder of such a fellowship must spend at least two years upon his graduate work.

CURRICULA.

THEORY, PRACTICE, TERM-HOUR.

In the curricula shown on the following pages, the time devoted each week to the several subjects is expressed in clock-hours. The hours devoted to "theory" (which includes recitations and lectures) are indicated in the column headed "Th.," the hours devoted to "practice" (which includes work in laboratory, shop, drawing room or field) are indicated in the column headed "Pr."

A "term-hour" is one clock-hour of "theory" or two clock-hours of "practice" per week for one term.

Notes.—1. In addition to the work shown in the several curricula,

(a) All first-year students are required to take physical training three hours a week.

(b) Students taking English are required to attend conferences with their instructors.

(c) In the four-year agricultural and engineering courses all students are required to attend an assembly not oftener than once a month.

(d) Members of the R. O. T. C. are required to devote two afternoons in the second term of every year to target practice.

2. Junior and senior courses in military science are required of members of the advanced course in the R. O. T. C.; they are not open to other students.

I.—COURSE IN AGRICULTURE.

FRESHMAN YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------|-----------------|-----|--------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Animal Husbandry 101..... | 0 | 4 | Agronomy 102 | 3 | 2 |
| Market Types | | | Field Crops | | |
| Biology 101 | 2 | 4 | Animal Husbandry 102..... | 0 | 4 |
| General Botany | | | Market Types | | |
| Chemistry 101 | 3 | 3 | Biology 102 | 2 | 4 |
| Inorganic | | | General Botany | | |
| Dairy Husbandry 101..... | 0 | 2 | Chemistry 102 | 3 | 3 |
| Judging Dairy Cattle | | | Inorganic | | |
| English 103 | 3 | 0 | English 104 | 3 | 0 |
| Rhetoric and Composition | | | Rhetoric and Composition | | |
| Mathematics 107 | 3 | 0 | Military Science 102 or 104... | 1 | 2 |
| Agricultural | | | Textile Engineering 102..... | 0 | 2 |
| Military Science 101 or 103... | 1 | 2 | Cotton Classing | | |
| | 12 | 15 | | 12 | 17 |

SOPHOMORE YEAR.

| | | | | | |
|--------------------------------|----|----|--------------------------------|----|----|
| **Biology 207..... | 2 | 4 | Agricultural Engineering 204.. | 2 | 2 |
| Zoology | | | Farm Machinery | | |
| English 203 | 2 | 0 | **Biology 206 | 1 | 4 |
| Composition | | | Bacteriology | | |
| Entomology 201 | 2 | 2 | Chemistry 206 | 3 | 2 |
| General | | | Organic | | |
| Geology 209 | 3 | 2 | Dairy Husbandry 202..... | 2 | 2 |
| General | | | Dairying | | |
| Horticulture 201 | 2 | 2 | English 204 | 2 | 0 |
| Plant Prop. and Orchardng | | | Composition | | |
| Military Science 201 or 203... | 1 | 2 | Military Science 202 or 204... | 1 | 2 |
| *Elective | 3 | | *Elective | 3 | |
| | 15 | 12 | | 14 | 12 |

*To be chosen from the following:

| | | | | | |
|-------------------------------|---|---|---------------------------|---|---|
| Agricultural Economics 203... | 3 | 0 | Animal Husbandry 202..... | 2 | 2 |
| Agricultural Resources | | | Breed Types | | |
| Agricultural Engineering 203. | 2 | 2 | Geology 210 | 2 | 2 |
| Gas Engines | | | Agricultural | | |
| Animal Husbandry 201..... | 2 | 2 | Horticulture 202 | 2 | 2 |
| Farm Poultry | | | Vegetable Gardening | | |

**Odd numbered sections will take Biology 207 the first term and Biology 206 the second term. Even numbered sections will take those subjects in the reverse order.

GROUP 1. AGRICULTURAL CHEMISTRY.

JUNIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|------------------------|-----------------|-----|---------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Agronomy 301 | 3 | 2 | **Agronomy 308 | 2 | 2 |
| Soils | | | Forage Crops | | |
| Chemistry 309 | 3 | 3 | Chemistry 314 | 2 | 6 |
| Agricultural Chemistry | | | Advanced Agricultural Chemistry | | |
| Chemistry 313 | 2 | 8 | Economics 306 | 3 | 0 |
| Qualitative Analysis | | | Fundamental Principles | | |
| English 301 | 1 | 0 | English 304 | 2 | 0 |
| Argumentation | | | Argumentation | | |
| *Elective | 5 | | *Elective | 7 | |
| | 14 | 13 | | 16 | 8 |

SENIOR YEAR.

| | | | | | |
|--------------------------------|----|---|-------------------------------|----|---|
| Agricultural Economics 411.... | 3 | 0 | Chemical Engineering 414..... | 3 | 4 |
| Agricultural Economics | | | Sanitary | | |
| Chemical Engineering 411..... | 3 | 4 | English 402 | 1 | 0 |
| Physical | | | Public Speaking | | |
| English 401 | 1 | 0 | Rural Sociology 408..... | 2 | 2 |
| Public Speaking | | | Rural Sociology | | |
| Farm Management 401..... | 2 | 4 | *Elective | 11 | |
| Farm Management | | | | | |
| *Elective | 7 | | | | |
| | 16 | 8 | | 17 | 6 |

GROUP 2. AGRICULTURAL EDUCATION.

JUNIOR YEAR.

| | | | | | |
|------------------------------|----|---|------------------------------|----|---|
| Agronomy 301 | 3 | 2 | Agronomy 308 | 2 | 2 |
| Soils | | | Forage Crops | | |
| Chemistry 309 | 3 | 3 | Economics 306 | 3 | 0 |
| Agricultural Chemistry | | | Fundamental Principles | | |
| English 301 | 1 | 0 | English 304 | 2 | 0 |
| Argumentation | | | Argumentation | | |
| Vocational Teaching 305..... | 3 | 0 | Vocational Teaching 308..... | 3 | 0 |
| Vocational Educaiton | | | Educational Psychology | | |
| *Elective | 8 | | *Elective | 9 | |
| | 18 | 5 | | 19 | 2 |

SENIOR YEAR.

| | | | | | |
|---------------------------------|----|---|------------------------------|----|---|
| Agricultural Economics 411.... | 3 | 0 | English 402 | 1 | 0 |
| Agricultural Economics | | | Public Speaking | | |
| English 401 | 1 | 0 | Rural Sociology 408..... | 2 | 2 |
| Public Speaking | | | Rural Sociology | | |
| Farm Management 401..... | 2 | 4 | Vocational Teaching 402..... | 2 | 2 |
| Farm Management | | | Adm. of H. S. Agriculture | | |
| Vocational Teaching 401..... | 3 | 0 | *Elective | 13 | |
| Methods of Teaching Agriculture | | | | | |
| *Elective | 9 | | | | |
| | 18 | 4 | | 18 | 4 |

GROUP 3. AGRICULTURAL ENGINEERING.

JUNIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|-------------------------------|-----------------|-----|-------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Agricultural Engineering 305. | 3 | 4 | Agricultural Engineering 314. | 2 | 4 |
| Surveying and Drainage | | | Tractors | | |
| Agronomy 301 | 3 | 2 | Agronomy 308 | 2 | 2 |
| Soils | | | Forage Crops | | |
| Chemistry 309 | 3 | 3 | Economics 306 | 3 | 0 |
| Agricultural Chemistry | | | Fundamental Principles | | |
| English 301 | 1 | 0 | English 304 | 2 | 0 |
| Argumentation | | | Argumentation | | |
| *Elective | 6 | | *Elective | 8 | |
| | 16 | 9 | | 17 | 6 |

SENIOR YEAR.

| | | | | | |
|--------------------------------|----|---|--------------------------------|----|---|
| Agricultural Economics 411... | 3 | 0 | Agricultural Engineering 402.. | 2 | 4 |
| Agricultural Economics | | | Automobiles and Trucks | | |
| Agricultural Engineering 413.. | 2 | 4 | English 402 | 1 | 0 |
| Farm Buildings | | | Public Speaking | | |
| English 401 | 1 | 0 | Rural Sociology 408..... | 2 | 2 |
| Public Speaking | | | Rural Sociology | | |
| Farm Management 401..... | 2 | 4 | *Elective | 12 | |
| Farm Management | | | | | |
| *Elective | 8 | | | | |
| | 16 | 8 | | 17 | 6 |

GROUP 4. AGRONOMY.

JUNIOR YEAR.

| | | | | | |
|------------------------|----|---|------------------------|----|---|
| Agronomy 301 | 3 | 2 | Agronomy 308 | 2 | 2 |
| Soils | | | Forage Crops | | |
| Agronomy 305 | 2 | 2 | Agronomy 306 | 2 | 2 |
| Genetics | | | Plant Breeding | | |
| Chemistry 309 | 3 | 3 | Economics 306 | 3 | 0 |
| Agricultural Chemistry | | | Fundamental Principles | | |
| English 301 | 1 | 0 | English 304 | 2 | 0 |
| Argumentation | | | Argumentation | | |
| *Elective | 8 | | *Elective | 9 | |
| | 16 | 7 | | 18 | 4 |

SENIOR YEAR.

| | | | | | |
|-------------------------------|----|---|--------------------------|----|---|
| Agricultural Economics 411... | 3 | 0 | Agronomy 410 | 2 | 2 |
| Agricultural Economics | | | Soil Fertility | | |
| Animal Husbandry 409..... | 3 | 2 | English 402 | 1 | 0 |
| Animal Nutrition and Feeding | | | Public Speaking | | |
| English 401 | 1 | 0 | Rural Sociology 408..... | 2 | 2 |
| Public Speaking | | | Rural Sociology | | |
| Farm Management 401..... | 2 | 4 | *Elective | 13 | |
| Farm Management | | | | | |
| *Elective | 8 | | | | |
| | 17 | 6 | | 18 | 4 |

GROUP 5. ANIMAL HUSBANDRY.

JUNIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|---------------------------|-----------------|-------|-----------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Agronomy 301 | 3 | 2 | Agronomy 308 | 2 | 2 |
| Soils | | | Forage Crops | | |
| Agronomy 305 | 2 | 2 | Animal Husbandry 302..... | 2 | 2 |
| Genetics | | | Animal Breeding | | |
| Animal Husbandry 303..... | 3 | 2 | Economics 306 | 3 | 0 |
| Animal Nutrition | | | Fundamental Principles | | |
| Chemistry 309 | 3 | 3 | English 304 | 2 | 0 |
| Agricultural Chemistry | | | Argumentation | | |
| English 301 | 1 | 0 | Veterinary Anatomy 302..... | 2 | 2 |
| Argumentation | | | Anatomy and Physiology | | |
| *Elective | 4 | | *Elective | 6 | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 16 | 9 | | 17 | 6 |

SENIOR YEAR.

| | | | | |
|---------------------------------|-------|--------------------------|-------|-------|
| Agricultural Economics 411... 3 | 0 | English 402 | 1 | 0 |
| Agricultural Economics | | Public Speaking | | |
| English 401 | 1 | Rural Sociology 408..... | 2 | 2 |
| Public Speaking | | Rural Sociology | | |
| Farm Management 401..... | 2 | *Elective | 16 | |
| Farm Management | | | | |
| Veterinary Medicine 403..... | 3 | | | |
| Animal Diseases | | | | |
| *Elective | 8 | | | |
| | <hr/> | | <hr/> | <hr/> |
| | 17 | 6 | | 19 2 |

Note.—In group 5, the senior electives must include at least one course in Animal Husbandry each term.

GROUP 7. DAIRY HUSBANDRY.

JUNIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|------------------------------|-----------------|-----|--|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Agronomy 301 | 3 | 2 | Agronomy 308 | 2 | 2 |
| Soils | | | Forage Crops | | |
| Agronomy 305 | 2 | 2 | Dairy Husbandry 306 | 2 | 2 |
| Genetics | | | Butter Making and Factory Management | | |
| Chemistry 309 | 3 | 3 | Economics 306 | 3 | 0 |
| Agricultural Chemistry | | | Fundamental Principles | | |
| Dairy Husbandry 301 | 2 | 2 | English 304 | 2 | 0 |
| Market Milk | | | Argumentation | | |
| English 301 | 1 | 0 | *Elective | 9 | |
| Argumentation | | | | | |
| *Elective | 5 | | | | |
| | 16 | 9 | | 18 | 4 |

SENIOR YEAR.

| | | | | | |
|-------------------------------|----|---|---|----|---|
| Agricultural Economics 411... | 3 | 0 | Dairy Husbandry 406..... | 3 | 2 |
| Agricultural Economics | | | Dairy Cattle Feeding and Management | | |
| Animal Husbandry 401..... | 3 | 2 | English 402 | 1 | 0 |
| Animal Nutrition | | | Public Speaking | | |
| English 401 | 1 | 0 | Rural Sociology 408..... | 2 | 2 |
| Public Speaking | | | Rural Sociology | | |
| Farm Management 401..... | 2 | 4 | *Elective | 12 | |
| Farm Management | | | | | |
| *Elective | 8 | | | | |
| | 17 | 6 | | 18 | 4 |

GROUP 9. HORTICULTURE.

JUNIOR YEAR.

| | | | | | |
|--------------------------------------|----|---|----------------------------------|----|---|
| Agronomy 301 | 3 | 2 | Agronomy 308 | 2 | 2 |
| Soils | | | Forage Crops | | |
| Agronomy 305 | 2 | 2 | Economics 306 | 3 | 0 |
| Genetics | | | Fundamental Principles | | |
| Chemistry 309 | 3 | 3 | English 304 | 2 | 0 |
| Agricultural Chemistry | | | Argumentation | | |
| English 301 | 1 | 0 | Horticulture 310 | 2 | 2 |
| Argumentation | | | Commercial Veg. Production | | |
| Horticulture 303 | 3 | 2 | *Elective | 9 | |
| Principles of Fruit Production | | | | | |
| *Elective | 4 | | | | |
| | 16 | 9 | | 18 | 4 |

SENIOR YEAR.

| | | | | | |
|-------------------------------|----|---|-------------------------------|----|---|
| Agricultural Economics 411... | 3 | 0 | English 402 | 1 | 0 |
| Agricultural Economics | | | Public Speaking | | |
| English 401 | 1 | 0 | Horticulture 404 | 2 | 2 |
| Public Speaking | | | Commercial Horticulture | | |
| Farm Management 401..... | 2 | 4 | Rural Sociology 408..... | 2 | 2 |
| Farm Management | | | Rural Sociology | | |
| Horticulture 401 | 3 | 2 | *Elective | 13 | |
| Pomology | | | | | |
| *Elective | 8 | | | | |
| | 17 | 6 | | 18 | 4 |

GROUP 10. LANDSCAPE ART.

JUNIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|-------------------------------|-----------------|-------|--------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Agronomy 301 | 3 | 2 | Agronomy 308 | 2 | 2 |
| Soils | | | Forage Crops | | |
| Chemistry 309 | 3 | 3 | Economics 306 | 3 | 0 |
| Agricultural Chemistry | | | Fundamental Principles | | |
| English 301 | 1 | 0 | English 304 | 2 | 0 |
| Argumentation | | | Argumentation | | |
| Horticulture 307 | 2 | 2 | Horticulture 308 | 2 | 0 |
| Introduction to Landscape Art | | | History of Landscape Art | | |
| *Elective | 8 | | *Elective | 10 | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 17 | 7 | | 19 | 2 |

SENIOR YEAR.

| | | | | | |
|-------------------------------|-------|-------|--------------------------|-------|-------|
| Agricultural Economics 411... | 3 | 0 | English 402 | 1 | 0 |
| Agricultural Economics | | | Public Speaking | | |
| English 401 | 1 | 0 | Horticulture 416 | 3 | 4 |
| Public Speaking | | | Landscape Design | | |
| Farm Management 401..... | 2 | 4 | Rural Sociology 408..... | 2 | 2 |
| Farm Management | | | Rural Sociology | | |
| Horticulture 415 | 3 | 4 | *Elective | 11 | |
| Landscape Design | | | | | |
| *Elective | 7 | | | | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 16 | 8 | | 17 | 6 |

*Junior and Senior electives.

In all groups the junior and senior electives are to be chosen in departments offering courses in the School of Agriculture. These electives must be chosen from courses numbered above 300.

Notes.—1. The following required courses are common to all groups: Agricultural Economics 411; Agronomy 301, 308; Chemistry 309; Economics 306; English 301, 304, 401, 402; Farm Management 401; Rural Sociology 408.

**2. For the Sessions 1922-23, 1923-24 Agronomy 308 will be replaced by Agronomy 302 (3-2) as described in the 45th Catalogue.

XIV.—COURSE IN AGRICULTURAL ADMINISTRATION.

FRESHMAN YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|---------------------------------|-----------------|-----|---------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Agronomy 103 | 3 | 2 | Animal Husbandry 102..... | 0 | 4 |
| Field Crops | | | Market Types | | |
| Animal Husbandry 101..... | 0 | 4 | Biology 102 | 2 | 4 |
| Market Types | | | General Botany | | |
| Biology 101 | 2 | 4 | Chemistry 102 | 3 | 3 |
| General Botany | | | Inorganic | | |
| Chemistry 101 | 3 | 3 | Drawing 122 | 0 | 3 |
| Inorganic | | | Mechanical Drawing | | |
| English 103 | 3 | 0 | English 104 | 3 | 0 |
| Rhetoric and Composition | | | Rhetoric and Composition | | |
| Military Science 101 or 103.... | 1 | 2 | Mathematics 108 | 3 | 0 |
| | | | Agricultural | | |
| | | | Military Science 102 or 104.... | 1 | 2 |
| | — | — | | — | — |
| | 12 | 15 | | 12 | 16 |

Required in all groups:

SOPHOMORE YEAR.

| | | | |
|----------------------------------|-------|----------------------------------|-------|
| Agricultural Economics 201... 1 | 4 | Agricultural Economics 202... 1 | 4 |
| Accounting | | Accounting | |
| Economics 201 3 | 0 | Economics 202 2 | 0 |
| Elementary | | Business Law | |
| English 203 2 | 0 | English 204 2 | 0 |
| Composition | | Composition | |
| Military Science 201 or 203... 1 | 2 | Military Science 202 or 204... 1 | 2 |
| *Elective .....10 | | *Elective .....11 | |
| | <hr/> | | <hr/> |
| | 17 | | 17 |
| | 6 | | 6 |

JUNIOR YEAR.

(Effective September, 1923).

| | | | | |
|---------------------------------|-------|--------------------------|-------|---|
| Agricultural Economics 301... 2 | 2 | Economics 312 | 3 | 0 |
| Agricultural Economics | | Money and Banking | | |
| Agricultural Economics 305... 1 | 4 | English 304 | 2 | 0 |
| Statistics | | Argumentation | | |
| English 301 | 1 | Farm Management 302..... | 3 | 4 |
| Argumentation | | Farm Management | | |
| Rural Sociology 311..... | 3 | Rural Sociology 310..... | 2 | 2 |
| Social Psychology | | Rural Organizations | | |
| *Elective | 10 | *Elective | 7 | |
| | <hr/> | | <hr/> | |
| | 17 | | 17 | 6 |
| | 6 | | | |

SENIOR YEAR.

(Effective September, 1924).

| | | | |
|---------------------------------|-------|---------------------------------|-------|
| Agricultural Economics 401... 3 | 0 | Agricultural Economics 402... 3 | 0 |
| Marketing | | Property and Contract | |
| English 401 1 | 0 | English 402 1 | 0 |
| Public Speaking | | Public Speaking | |
| Rural Sociology 407..... 2 | 2 | *Elective .....16 | |
| Rural Sociology | | | |
| *Elective .....13 | | | |
| | <hr/> | | <hr/> |
| | 19 | | 20 |
| | 2 | | 0 |

***ELECTIVES.**

In addition to the required work listed above, the student must take electives sufficient to make a total of 160 term-hours before graduation. In the several groups the electives must be chosen subject to the restrictions stated below.

GROUP 1. AGRICULTURAL ECONOMICS.

In this group the electives must include:

1. A minimum of 20 term-hours from the following:

Agricultural Economics 303, 401, 403, 405, 407, 409; 204, 308, 406, 408, 410, 412, 414.

Mathematics 101, 203; 104, 106, 204.

2. A minimum of 12 term-hours in technical agriculture, to be taken in the departments of Agricultural Engineering, Agronomy, Animal Husbandry, Dairy Husbandry, Horticulture.

GROUP 2. FARM MANAGEMENT.

In this group the electives must include:

1. Four courses from the following:

Farm Management 301, 405, 407; 406, 408.

2. A minimum of 30 term-hours in technical agriculture, to be taken in the departments of Agricultural Engineering, Agronomy, Animal Husbandry, Dairy Husbandry, Horticulture. At least 3 term-hours must be taken in each of those departments.

GROUP 3. RURAL SOCIOLOGY.

In this group the following courses are required: Rural Sociology 415; 312, 410, 414.

The electives must include:

1. A minimum of 4 term-hours from the following: Rural Sociology 201, 409, 413, 416.

2. A minimum of 18 term-hours in technical agriculture, to be taken in the departments of Agricultural Engineering, Agronomy, Animal Husbandry, Dairy Husbandry, Horticulture. At least 3 term-hours must be taken in each of those departments.

3. A minimum of 6 term-hours in the departments of Economics and History.

4. A minimum of 6 term-hours in the department of Vocational Teaching.

XIV.—COURSE IN AGRICULTURAL ADMINISTRATION.

JUNIOR YEAR.

(For the Session 1922-23).

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|-------------------------------|-----------------|-------|-------------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Agricultural Economics 201... | 1 | 4 | Agricultural Economics 202... | 1 | 4 |
| Accounting | | | Accounting | | |
| Agronomy 301 | 3 | 2 | Agricultural Economics 302... | 2 | 2 |
| Soils | | | Agricultural Economics | | |
| Economics 305 | 3 | 0 | Agronomy 302 | 3 | 2 |
| Principles of Economics | | | Farm Crops | | |
| English 301 | 1 | 0 | English 304 | 2 | 0 |
| Argumentation | | | Argumentation | | |
| History 305 | 3 | 0 | History 312 | 3 | 0 |
| Citizenship | | | Latin-American | | |
| Rural Sociology 301..... | 3 | 0 | *Elective | 3 | |
| General Sociology | | | | | |
| *Elective | 3 | | | | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 17 | 6 | | 14 | 8 |

SENIOR YEAR.

(For the Sessions 1922-23 and 1923-24).

| | | | | | |
|-------------------------------|-------|-------|--------------------------|-------|-------|
| Agricultural Economics 415... | 3 | 0 | Economics 408 | 3 | 0 |
| Statistics | | | Corporation Finance | | |
| Economics 411 | 3 | 0 | English 404 | 3 | 0 |
| Money and Banking | | | Public Speaking | | |
| English 401 | 1 | 0 | Farm Management 402..... | 3 | 4 |
| Public Speaking | | | Farm Management | | |
| Rural Sociology 407..... | 3 | 0 | Rural Sociology 404..... | 2 | 2 |
| Rural Sociology | | | Rural Organization | | |
| *Elective | 9 | | *Elective | 6 | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 19 | 0 | | 17 | 6 |

*To be chosen subject to the approval of the Professor of Agricultural Economics.

XII.—COURSE IN AGRICULTURAL EDUCATION.

FRESHMAN YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|----------------------------------|-----------------|-----|----------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Animal Husbandry 103..... | 2 | 4 | Animal Husbandry 104..... | 2 | 4 |
| Live Stock Production | | | Live Stock Production | | |
| Biology 101 | 2 | 4 | Biology 102 | 2 | 4 |
| General Botany | | | General Botany | | |
| Chemistry 101 | 3 | 3 | Chemistry 102 | 3 | 3 |
| Inorganic | | | Inorganic | | |
| Dairy Husbandry 101..... | 0 | 2 | Dairy Husbandry 102..... | 2 | 2 |
| Judging Dairy Cattle | | | Dairying | | |
| English 103 | 3 | 0 | English 104 | 3 | 0 |
| Rhetoric and Composition | | | Rhetoric and Composition | | |
| Military Science 101 or 103... 1 | 2 | | Military Science 102 or 104... 1 | 2 | |
| Textile Engineering 101..... | 0 | 2 | | | |
| Cotton Classing | | | | | |
| | — | — | | — | — |
| | 11 | 17 | | 13 | 15 |

SOPHOMORE YEAR.

| | | | | | |
|----------------------------------|----|----|----------------------------------|----|----|
| Agricultural Engineering 203.. | 2 | 2 | Agronomy 202 | 3 | 2 |
| Gas Engines | | | Field Crops | | |
| Animal Husbandry 201..... | 2 | 2 | Biology 206 | 1 | 4 |
| Poultry | | | Bacteriology | | |
| Biology 207 | 2 | 4 | Chemistry 206 | 3 | 2 |
| Zoology | | | Organic | | |
| English 203 | 2 | 0 | English 204 | 2 | 0 |
| Composition | | | Composition | | |
| Entomology 201 | 2 | 2 | Military Science 202 or 204... 1 | 2 | |
| General | | | *Elective | 5 | |
| Horticulture 201 | 2 | 2 | | | |
| Plant Prop. and Orchardng | | | | | |
| Military Science 201 or 203... 1 | 2 | | | | |
| | — | — | | — | — |
| | 13 | 14 | | 15 | 10 |

JUNIOR YEAR.

| | | | | | |
|------------------------------|----|---|--------------------------------|----|---|
| Agronomy 301 | 3 | 2 | Agricultural Engineering 318.. | 1 | 6 |
| Soils | | | Farm Shop | | |
| Chemistry 309 | 3 | 3 | Agronomy 302 | 2 | 2 |
| Agricultural Chemistry | | | Forage Crops | | |
| English 301 | 1 | 0 | Economics 306 | 3 | 0 |
| Argumentation | | | Fundamental Principles | | |
| Veterinary Medicine 305..... | 3 | 2 | English 302 | 1 | 0 |
| Animal Diseases | | | Argumentation | | |
| Vocational Teaching 305..... | 3 | 0 | Vocational Teaching 308..... | 3 | 0 |
| Vocational Education | | | Educational Psychology | | |
| *Elective | 4 | | *Elective | 6 | |
| | — | — | | — | — |
| | 17 | 7 | | 16 | 8 |

SENIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|-------------------------------|-----------------|-------|------------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Agricultural Economics 411... | 3 | 0 | English 402 | 1 | 0 |
| Agricultural Economics | | | Public Speaking | | |
| English 401 | 1 | 0 | Rural Sociology 408..... | 2 | 2 |
| Public Speaking | | | Rural Sociology | | |
| Farm Management 401..... | 2 | 4 | Vocational Teaching 402..... | 2 | 2 |
| Farm Management | | | Adm. of H. S. Agriculture | | |
| Vocational Teaching 401..... | 3 | 0 | Vocational Teaching 410..... | 3 | 0 |
| Methods of Teaching Agri- | | | Supervised Teaching | | |
| culture | | | Elective | 10 | |
| Elective | 9 | | | | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 18 | 4 | | 18 | 4 |

C.—TWO-YEAR COURSE IN AGRICULTURE.

FIRST YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------|-----------------|-----|------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Agricultural Engineering 201.. | 2 | 2 | Agronomy 30 | 3 | 2 |
| Farm Machinery | | | Elementary Crop Production | | |
| Agronomy 25 | 3 | 2 | Animal Husbandry 102..... | 0 | 4 |
| Soils | | | Market Types | | |
| Animal Husbandry 101..... | 0 | 4 | Animal Husbandry 106..... | 2 | 2 |
| Market Types | | | Farm Poultry | | |
| Dairy Husbandry 23..... | 3 | 2 | English 32 | 3 | 0 |
| Farm Dairying | | | Practical Composition | | |
| English 31 | 3 | 0 | Entomology 22 | 2 | 2 |
| Practical Composition | | | Elementary Econ. Ent. | | |
| Horticulture 21 | 2 | 2 | Horticulture 202 | 2 | 2 |
| Plant Culture and Propagation | | | Vegetable Gardening | | |
| Military Science 11..... | 1 | 2 | Military Science 12..... | 1 | 2 |
| Textile Engineering 101..... | 0 | 2 | Textile Engineering 102..... | 0 | 2 |
| Cotton Classing | | | Cotton Classing | | |
| | — | — | | — | — |
| | 14 | 16 | | 13 | 16 |

SECOND YEAR.

Eighteen term-hours each term from the following in addition to Military Science:

| | | | | | |
|-------------------------------------|---|---|--------------------------------|---|---|
| Agricultural Engineering 305.. | 3 | 4 | Agricultural Engineering 302.. | 0 | 4 |
| Surveying and Drainage | | | Repair of Farm Machinery | | |
| Agricultural Engineering 203.. | 2 | 2 | Agricultural Engineering 314.. | 2 | 4 |
| Gas Engines | | | Tractors | | |
| Agricultural Engineering 409.. | 1 | 2 | Agricultural Engineering 402.. | 2 | 4 |
| Farm Concrete | | | Automobiles and Motor Trucks | | |
| Agronomy 55 | 2 | 2 | Agricultural Engineering 316.. | 2 | 2 |
| Elementary Plant Breeding | | | Irrigation | | |
| Animal Husbandry 55..... | 2 | 2 | Animal Husbandry 52..... | 2 | 2 |
| Feeding | | | Breeding | | |
| Dairy Husbandry 55..... | 2 | 2 | Animal Husbandry 58..... | 2 | 2 |
| Dairy Cattle Feeding and Management | | | Live Stock Management | | |
| Drawing 61 | 0 | 3 | Animal Husbandry 202..... | 2 | 2 |
| Mechanical | | | Breed Types | | |
| English 103 | 3 | 0 | English 104 | 3 | 0 |
| Rhetoric and Composition | | | Rhetoric and Composition | | |
| Horticulture 53 | 3 | 2 | Entomology 56 | 2 | 2 |
| Tree and Vine Fruits | | | Apiculture | | |
| Military Science 51..... | 1 | 2 | Farm Management 52..... | 2 | 4 |
| | | | Elementary Farm Management | | |
| | | | Horticulture 58 | 1 | 4 |
| | | | Nut Culture | | |
| | | | Military Science 52..... | 1 | 2 |
| | | | Veterinary Anatomy 52..... | 3 | 2 |
| | | | Animal Diseases | | |

M.—TWO-YEAR COURSE IN AGRICULTURAL ENGINEERING.

FIRST YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------|-----------------|-------|--------------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Agricultural Engineering 31... | 3 | 0 | Agricultural Engineering 32... | 3 | 0 |
| Shop Computations | | | Shop Computations | | |
| Agricultural Engineering 201.. | 2 | 2 | Agricultural Engineering 206.. | 2 | 4 |
| Farm Machinery | | | Gas Engines | | |
| Agricultural Engineering 409.. | 1 | 2 | Agronomy 30 | 3 | 2 |
| Farm Concrete | | | Elementary Crop Production | | |
| Agronomy 25 | 3 | 2 | Drawing 16 | 0 | 2 |
| Soils | | | Mechanical | | |
| Drawing 15 | 0 | 2 | English 32 | 3 | 0 |
| Mechanical | | | Practical Composition | | |
| English 31 | 3 | 0 | Horticulture 202 | 2 | 2 |
| Practical Composition | | | Vegetable Gardening | | |
| Mechanical Engineering 103... | 0 | 3 | Mechanical Engineering 104... | 0 | 3 |
| Woodwork | | | Forging | | |
| Military Science 11..... | 1 | 2 | Military Science 12..... | 1 | 2 |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 13 | 13 | | 14 | 15 |

SECOND YEAR.

| | | | | | |
|--------------------------------|-------|-------|--------------------------------|-------|-------|
| Agricultural Engineering 305.. | 3 | 4 | Agricultural Engineering 302.. | 0 | 4 |
| Surveying and Drainage | | | Repair of Farm Machinery | | |
| Agricultural Engineering 413.. | 2 | 4 | Agricultural Engineering 402.. | 2 | 4 |
| Farm Buildings | | | Automobiles and Motor Trucks | | |
| Agricultural Engineering 317.. | 2 | 4 | Agricultural Engineering 414.. | 0 | 4 |
| Tractors | | | Farm Buildings | | |
| Military Science 51..... | 1 | 2 | Military Science 52..... | 1 | 2 |
| *Elective | 6 | | *Elective | 9 | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 14 | 14 | | 12 | 14 |

*To be chosen from subjects listed in Course C.

COURSES IN ENGINEERING.

(The curricula for all Engineering courses are identical in the Freshman year.)

FRESHMAN YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|----------------------------------|-----------------|-------|----------------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Chemistry 101 | 3 | 3 | Chemistry 102 | 3 | 3 |
| Inorganic | | | Inorganic | | |
| Drawing 101 | 0 | 3 | Drawing 102 | 0 | 3 |
| Mechanical | | | Mechanical | | |
| Drawing 103 | 2 | 0 | Drawing 104 | 2 | 0 |
| Descriptive Geometry | | | Descriptive Geometry | | |
| Drawing 105 | 0 | 1 | Drawing 106 | 0 | 1 |
| Freehand | | | Freehand | | |
| English 103 | 3 | 0 | English 104 | 3 | 0 |
| Rhetoric and Composition | | | Rhetoric and Composition | | |
| Mathematics 101 | 3 | 0 | Mathematics 102 | 3 | 0 |
| Algebra | | | Algebra | | |
| Mathematics 103 | 3 | 0 | Mathematics 104 | 3 | 0 |
| Trigonometry | | | Analytics | | |
| Mechanical Engineering 101... 1 | 0 | | Mechanical Engineering 102... 1 | 0 | |
| Elementary Mechanics | | | Elementary Mechanics | | |
| Mechanical Engineering 103... 0 | 3 | | Mechanical Engineering 104... 0 | 3 | |
| Woodwork | | | Forging | | |
| Mil. Sci. 101, 103 or 105..... 1 | 2 | | Mil. Sci. 102, 104 or 106..... 1 | 2 | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 16 | 12 | | 16 | 12 |

XV.—COURSE IN AGRICULTURAL ENGINEERING.

FRESHMAN YEAR.

See page 117.

SOPHOMORE YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|---------------------------------|-----------------|-----|---------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Agricultural Engineering 211.. | 2 | 4 | Agricultural Engineering 214.. | 2 | 4 |
| Gas Engines | | | Tractors | | |
| Animal Husbandry 211..... | 0 | 4 | Animal Husbandry 212..... | 0 | 4 |
| Market Types | | | Market Types | | |
| English 203 | 2 | 0 | Civil Engineering 206..... | 1 | 3 |
| Composition | | | Plane Surveying | | |
| Mathematics 205 | 5 | 0 | Civil Engineering 204..... | 4 | 0 |
| Calculus | | | Analytic Mechanics | | |
| Mechanical Engineering 209... | 0 | 3 | English 204 | 2 | 0 |
| Machine Shop | | | Composition | | |
| Military Science 201 or 203.... | 1 | 2 | Military Science 202 or 204.... | 1 | 2 |
| Physics 203 | 3 | 3 | Physics 204 | 3 | 3 |
| General | | | General | | |
| | — | — | | — | — |
| | 13 | 16 | | 13 | 16 |

SUMMER WORK.

Civil Engineering 300, Field Practice, three weeks.

JUNIOR YEAR.

| | | | | | |
|--------------------------------|----|---|-----------------------------------|----|----|
| Agronomy 301 | 3 | 2 | Agricultural Engineering 320.. | 2 | 4 |
| Soils | | | Farm Machinery | | |
| Civil Engineering 327..... | 3 | 0 | Agronomy 302 | 3 | 2 |
| Mechanics of Materials | | | Farm Crops | | |
| English 303 | 2 | 0 | Civil Engineering 328..... | 0 | 2 |
| Argumentation | | | Mechanics of Materials Laboratory | | |
| Electrical Engineering 305.... | 3 | 2 | English 302 | 1 | 0 |
| Electrical Machinery | | | Argumentation | | |
| Geology 309 | 3 | 2 | History 306 | 3 | 0 |
| General | | | Citizenship | | |
| Elective | 3 | | Horticulture 312 | 2 | 2 |
| | | | Vegetable Gardening | | |
| | | | Elective | 4 | |
| | — | — | | — | — |
| | 17 | 6 | | 15 | 10 |

SENIOR YEAR.

| | | | | | |
|--------------------------------|----|---|--------------------------------|----|----|
| Agricultural Engineering 415.. | 2 | 2 | Agricultural Engineering 410.. | 2 | 0 |
| Drainage | | | Irrigation | | |
| Agricultural Engineering 413.. | 2 | 4 | Agricultural Engineering 418.. | 3 | 2 |
| Farm Buildings | | | Designing of Farm Structures | | |
| Civil Engineering 441..... | 3 | 2 | Agricultural Engineering 402.. | 2 | 4 |
| Hydraulics | | | Automobiles and Trucks | | |
| Civil Engineering 407..... | 3 | 0 | Civil Engineering 410..... | 2 | 0 |
| Roads and Pavements | | | Contracts and Specifications | | |
| Economics 403 | 3 | 0 | English 402 | 1 | 0 |
| Fundamental Principles | | | Public Speaking | | |
| English 401 | 1 | 0 | Farm Management 402..... | 3 | 4 |
| Public Speaking | | | Farm Management | | |
| Elective | 3 | | Elective | 3 | |
| | — | — | | — | — |
| | 17 | 8 | | 16 | 10 |

IX.—COURSES IN ARCHITECTURE.

GROUP 1. GENERAL COURSE.

FRESHMAN YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------|-----------------|-----|--------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Architecture 101 | 0 | 3 | Architecture 102 | 0 | 6 |
| Architectural Drawing | | | Elements | | |
| Chemistry 101 | 3 | 3 | Architecture 104 | 2 | 0 |
| Inorganic | | | Shadows and Perspective | | |
| Drawing 101 | 0 | 3 | Chemistry 102 | 3 | 3 |
| Mechanical | | | Inorganic | | |
| Drawing 103 | 2 | 0 | Drawing 110 | 0 | 3 |
| Descriptive Geometry | | | Freehand | | |
| Drawing 109 | 0 | 3 | English 104 | 3 | 0 |
| Freehand | | | Rhetoric and Composition | | |
| English 103 | 3 | 0 | Mathematics 102 | 3 | 0 |
| Rhetoric and Composition | | | Algebra | | |
| Mathematics 101 | 3 | 0 | Mathematics 104 | 3 | 0 |
| Algebra | | | Analytics | | |
| Mathematics 103 | 3 | 0 | Mil. Sci. 102, 104 or 106..... | 1 | 2 |
| Trigonometry | | | | | |
| Mil. Sci. 101, 103 or 105..... | 1 | 2 | | | |
| | — | — | | — | — |
| | 15 | 14 | | 15 | 14 |

SOPHOMORE YEAR.

| | | | | | |
|--------------------------------|----|----|--------------------------------|----|----|
| Architecture 201 | 0 | 10 | Architecture 202 | 0 | 10 |
| Design | | | Design | | |
| Architecture 209 | 1 | 0 | Architecture 210 | 2 | 0 |
| Principles of Design | | | Masonry and Carpentry | | |
| Architecture 207 | 2 | 0 | Architecture 208 | 2 | 0 |
| History | | | History | | |
| Architecture 217 | 3 | 0 | Architecture 218 | 3 | 0 |
| Elements of Mechanics | | | Mechanics of Materials | | |
| Drawing 209 | 0 | 4 | Drawing 210 | 0 | 4 |
| Freehand | | | Freehand | | |
| English 203 | 2 | 0 | English 204 | 2 | 0 |
| Composition | | | Composition | | |
| Physics 203 | 3 | 3 | Physics 204 | 3 | 3 |
| General | | | General | | |
| Military Science 201 or 203... | 1 | 2 | Military Science 203 or 204... | 1 | 2 |
| | — | — | | — | — |
| | 12 | 19 | | 13 | 19 |

JUNIOR YEAR.

| | | | | | |
|--------------------------|---|----|--------------------------|---|----|
| Architecture 301 | 0 | 15 | Architecture 302 | 0 | 15 |
| Design | | | Design | | |
| Architecture 309 | 2 | 0 | Architecture 316 | 3 | 0 |
| History | | | Mechanical Equipment | | |
| Architecture 317 | 2 | 3 | Architecture 318 | 2 | 3 |
| Framed Construction | | | Reinforced Concrete | | |
| Drawing 309 | 0 | 4 | Drawing 310 | 0 | 4 |
| Freehand | | | Water Color | | |
| English 301 | 2 | 0 | English 302 | 1 | 0 |
| Argumentation | | | Argumentation | | |
| Modern Language 311..... | 3 | 0 | Modern Language 312..... | 3 | 0 |
| French | | | French | | |
| | — | — | | — | — |
| | 9 | 22 | | 9 | 22 |

And one subject each term from List B, page 130; or History 306, Citizenship. (Second term).

SENIOR YEAR.

(Effective 1923-24).

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------|-----------------|-----|--------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Architecture 401 | 0 | 18 | Architecture 402 | 0 | 20 |
| Design | | | Design | | |
| Architecture 407 | 2 | 0 | Architecture 406 | 2 | 0 |
| History of Art | | | Professional Practice | | |
| Drawing 409 | 0 | 4 | Architecture 414 | 1 | 0 |
| Rendering | | | Modern Architecture | | |
| Economics 403 | 3 | 0 | Drawing 410 | 0 | 4 |
| Fundamental Principles | | | Rendering | | |
| English 401 | 1 | 0 | English 402 | 1 | 0 |
| Public Speaking | | | Public Speaking | | |
| Modern Language 421..... | 3 | 0 | Modern Language 422..... | 3 | 0 |
| French | | | French | | |
| | — | — | | — | — |
| | 9 | 22 | | 7 | 24 |

And one subject each term from List C, page 130; or Economics 408. (Second term).

GROUP 2. STRUCTURAL COURSE.

FRESHMAN YEAR.

Same as in Group 1.

SOPHOMORE YEAR.

| | | | | | |
|--------------------------------|----|----|--------------------------------|----|---|
| Architecture 201 | 0 | 10 | Architecture 208 | 2 | 0 |
| Design | | | History | | |
| Architecture 207 | 1 | 0 | Architecture 210 | 2 | 0 |
| History | | | Masonry and Carpentry | | |
| Drawing 209 | 0 | 4 | Civil Engineering 204..... | 4 | 0 |
| Freehand | | | Analytic Mechanics | | |
| Mathematics 203 | 5 | 0 | Mathematics 204 | 5 | 0 |
| Calculus | | | Calculus | | |
| English 203 | 2 | 0 | English 204 | 2 | 0 |
| Composition | | | Composition | | |
| Physics 203 | 3 | 3 | Physics 204 | 3 | 3 |
| General | | | General | | |
| Military Science 201 or 203... | 1 | 2 | Military Science 201 or 203... | 1 | 2 |
| | — | — | | — | — |
| | 12 | 19 | | 19 | 5 |

JUNIOR YEAR.

| | | | | | |
|--------------------------------|----|----|----------------------------|---|----|
| Architecture 311 | 0 | 10 | Architecture 312 | 0 | 12 |
| Design | | | Design | | |
| Architecture 309 | 2 | 0 | Architecture 316 | 3 | 0 |
| History | | | Mechanical Equipment | | |
| Civil Engineering 307..... | 4 | 2 | Civil Engineering 330..... | 2 | 3 |
| Strength of Materials | | | Framed Structures | | |
| Drawing 309 | 0 | 4 | Civil Engineering 326..... | 1 | 3 |
| Freehand | | | Surveying | | |
| English 303 | 2 | 0 | Drawing 310 | 0 | 4 |
| Argumentation | | | Water Color | | |
| Electrical Engineering 305.... | 3 | 2 | English 302 | 1 | 0 |
| Electrical Machinery | | | Argumentation | | |
| | — | — | | — | — |
| | 11 | 18 | | 7 | 22 |

And one subject each term from List B, page 130; or History 306, Citizenship. (Second term).

ARCHITECTURE.

121

SENIOR YEAR. (Effective 1923-24).

| First Term. | | Hours per week. | | Second Term. | | Hours per week. | |
|-----------------------------|----|-----------------|-----|--------------------------------|---|-----------------|-----|
| | | Th. | Pr. | | | Th. | Pr. |
| Architecture 411 | 0 | 14 | | Architecture 412 | 0 | 14 | |
| Structural Design | | | | Structural Design | | | |
| Architecture 407 | 2 | 0 | | Architecture 414 | 1 | 0 | |
| History of Art | | | | Modern Architecture | | | |
| Civil Engineering 413..... | 2 | 0 | | Civil Engineering 414..... | 2 | 3 | |
| Elements of Reinf. Concrete | | | | Reinforced Concrete Design | | | |
| Economics 403 | 3 | 0 | | Architecture 406 | 2 | 0 | |
| Fundamental Principles | | | | Professional Practice | | | |
| English 401 | 1 | 0 | | Electrical Engineering 436.... | 3 | 0 | |
| Public Speaking | | | | Wiring and Lighting | | | |
| Geology 419 | 3 | 2 | | English 402 | 1 | 0 | |
| General | | | | Public Speaking | | | |
| | — | — | | | — | — | |
| | 11 | 16 | | | 9 | 17 | |

And one subject each term from List C, page 130; or Economics 408, Business Organization. (Second term).

(For the Session 1922-23).

GROUP 1.

SENIOR YEAR.

| First Term. | | Second Term. | |
|--------------------------------|------|--------------------------------|------|
| Architecture 401 | 0 16 | Architecture 402 | 0 16 |
| Design | | Design | |
| Architecture 407 | 2 0 | Architecture 406 | 2 0 |
| History of Ornament | | Special Topics | |
| Architecture 415 | 2 0 | Architecture 416 | 2 3 |
| Concrete Building Construction | | Concrete Building Design | |
| Drawing 409 | 0 6 | Civil Engineering 406..... | 0 3 |
| Color Rendering | | Materials of Construction | |
| Economics 403 | 3 0 | Electrical Engineering 436.... | 3 0 |
| Fundamental Principles | | Wiring and Lighting | |
| English 401 | 1 0 | English 402 | 1 0 |
| Public Speaking | | Public Speaking | |
| | — — | | — — |
| | 8 22 | | 8 22 |

Electives as above.

GROUP 2.

SENIOR YEAR.

| First Term. | | Second Term. | |
|-----------------------------|-------|--------------------------------|------|
| Architecture 403 | 0 16 | Architecture 404 | 0 16 |
| Structural Design | | Structural Design | |
| Architecture 405 | 2 0 | Architecture 406 | 2 0 |
| Structural Problems | | Special Topics | |
| Architecture 407 | 3 0 | Civil Engineering 406..... | 0 3 |
| History of Ornament | | Materials of Construction | |
| Civil Engineering 413..... | 2 0 | Civil Engineering 414..... | 2 3 |
| El. of Reinforced Concretee | | Reinforced Concrete Design | |
| Economics 403 | 3 0 | Electrical Engineering 436.... | 3 0 |
| Fundamental Principles | | Wiring and Lighting | |
| English 401 | 1 0 | English 402 | 1 0 |
| Public Speaking | | Public Speaking | |
| | — — | | — — |
| | 11 16 | | 8 22 |

Electives as above.

VIII.—COURSE IN CHEMICAL ENGINEERING.

FRESHMAN YEAR.

See page 117.

SOPHOMORE YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------|-----------------|-----|--------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Chemistry 205 | 2 | 8 | Chemical Engineering 202.... | 2 | 8 |
| Qualitative Analysis | | | Quantitative Analysis | | |
| Drawing 201 | 0 | 3 | Drawing 202 | 0 | 3 |
| Mechanical | | | Mechanical | | |
| English 203 | 2 | 0 | English 204 | 2 | 0 |
| Composition | | | Composition | | |
| Mathematics 205 | 5 | 0 | Mechanical Engineering 206... | 4 | 3 |
| Calculus | | | Elementary Steam Engineering | | |
| Military Science 201 or 203... | 1 | 2 | Military Science 202 or 204... | 1 | 2 |
| Physics 203 | 3 | 3 | Physics 204 | 3 | 3 |
| General | | | General | | |
| | — | — | | — | — |
| | 13 | 16 | | 12 | 19 |

JUNIOR YEAR.

| | | | | | |
|--------------------------------|----|----|------------------------------|----|----|
| Chemical Engineering 301.... | 2 | 9 | Chemical Engineering 302.... | 2 | 6 |
| Advanced Quantitative Analysis | | | Technical Analysis | | |
| Chemistry 301 | 3 | 4 | Chemistry 302 | 3 | 4 |
| Organic | | | Organic | | |
| Electrical Engineering 305.... | 3 | 2 | English 302 | 1 | 0 |
| Electrical Machinery | | | Argumentation | | |
| English 303 | 2 | 0 | Geology 306 | 3 | 3 |
| Argumentation | | | General | | |
| | — | — | History 306 | 3 | 0 |
| | 10 | 15 | Citizenship | | |
| | | | | — | — |
| | | | | 12 | 13 |

And one subject from the following:

| | | | | | |
|------------------------------|---|---|------------------------------|---|---|
| Civil Engineering 311..... | 3 | 2 | Civil Engineering 326..... | 1 | 3 |
| Hydraulics | | | Plane Surveying | | |
| *One subject from List B.... | 3 | 0 | *One subject from List B.... | 3 | 0 |

SENIOR YEAR.

| | | | | | |
|-------------------------------|----|---|-------------------------------|---|----|
| Chemical Engineering 411..... | 3 | 4 | Chemical Engineering 416..... | 3 | 8 |
| Physical Chemistry | | | Chemical Technology | | |
| Chemical Engineering 415..... | 3 | 4 | Chemical Engineering 414..... | 3 | 4 |
| Industrial Chemistry | | | Sanitary Chemistry | | |
| Economics 403 | 3 | 0 | Chemistry 436 | 1 | 0 |
| Fundamental Principles | | | History of Chemistry | | |
| English 401 | 1 | 0 | English 402 | 1 | 0 |
| Public Speaking | | | Public Speaking | | |
| | — | — | | — | — |
| | 10 | 8 | | 8 | 12 |

And seven hours each term from the following:

| | | | | | |
|------------------------------|---|---|------------------------------|---|---|
| Technical Subjects | 4 | 0 | Technical Subjects | 4 | 0 |
| *One subject from List C.... | 3 | 0 | *One subject from List C.... | 3 | 0 |

Note. To those students desiring to do so, an opportunity will be given to specialize in the study of the cotton seed oil industry or in petroleum technology.

*For Lists B and C, see page 130.

IV.—COURSE IN CIVIL ENGINEERING.

FRESHMAN YEAR.

See page 117.

SOPHOMORE YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|----------------------------------|-----------------|-------|----------------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Civil Engineering 201..... | 3 | 5 | Civil Engineering 202..... | 2 | 3 |
| Surveying | | | Railroad Engineering | | |
| Drawing 201a | 0 | 2 | Civil Engineering 204..... | 4 | 0 |
| Mechanical | | | Analytic Mechanics | | |
| English 203 | 2 | 0 | Drawing 202a | 0 | 2 |
| Composition | | | Mechanical | | |
| Mathematics 203 | 5 | 0 | English 204 | 2 | 0 |
| Calculus | | | Composition | | |
| Mechanical Engineering 205... 2 | 0 | | Mathematics 204 | 5 | 0 |
| Elementary Steam Engineering | | | Calculus | | |
| Military Science 201 or 203... 1 | 2 | | Military Science 202 or 204... 1 | 2 | |
| Physics 203 | 3 | 3 | Physics 204 | 3 | 3 |
| General | | | General | | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 16 | 12 | | 17 | 10 |

SUMMER WORK.

Civil Engineering 300, Field Practice, three weeks.

JUNIOR YEAR.

| | | | | | |
|----------------------------------|-------|-------|----------------------------|-------|-------|
| Civil Engineering 303..... | 2 | 3 | Civil Engineering 304..... | 2 | 0 |
| Railroad Engineering | | | Railroad Construction | | |
| Civil Engineering 307..... | 4 | 2 | Civil Engineering 306..... | 3 | 0 |
| Strength of Materials | | | Masonry | | |
| Civil Engineering 311..... | 3 | 2 | Civil Engineering 320..... | 0 | 2 |
| Hydraulics | | | Topographic Drawing | | |
| Electrical Engineering 305.... 3 | 2 | | Civil Engineering 330..... | 2 | 3 |
| Electrical Machinery | | | Framed Structures | | |
| English 303 | 2 | 0 | English 302 | 1 | 0 |
| Argumentation | | | Argumentation | | |
| | | | Geology 306 | 3 | 3 |
| | | | General | | |
| | | | History 306 | 3 | 0 |
| | | | Citizenship | | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 14 | 9 | | 14 | 8 |

*And one subject each term from List B.

SUMMER WORK.

Civil Engineering 400, Field Practice, three weeks.

*For List B see page 130.

GROUP 1. GENERAL CIVIL ENGINEERING.

SENIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|----------------------------|-----------------|-----|------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Civil Engineering 401..... | 0 | 4 | Civil Engineering 404..... | 0 | 6 |
| Railroad Drafting | | | Bridge Design | | |
| Civil Engineering 403..... | 4 | 6 | Civil Engineering 406..... | 0 | 3 |
| Roofs and Bridges | | | Materials of Construction | | |
| Civil Engineering 407..... | 3 | 0 | Civil Engineering 410..... | 2 | 0 |
| Roads and Pavements | | | Contracts and Specifications | | |
| Civil Engineering 413..... | 2 | 0 | Civil Engineering 414..... | 2 | 3 |
| El. of Reinforced Concrete | | | Reinforced Concrete Design | | |
| Economics 403 | 3 | 0 | Civil Engineering 434..... | 2 | 0 |
| Fundamental Principles | | | Irrigation and Drainage | | |
| English 401 | 1 | 0 | Civil Engineering 440..... | 4 | 2 |
| Public Speaking | | | Sanitary Engineering | | |
| | | | English 402 | 1 | 0 |
| | | | Public Speaking | | |
| | — | — | | — | — |
| | 13 | 10 | | 11 | 14 |

And one subject from the following:

| | | | | | |
|-------------------------------|---|---|-------------------------------|---|---|
| Geology 409 | 2 | 2 | Biology 418 | 2 | 4 |
| Engineering Geology | | | Water Bacteriology | | |
| Civil Engineering 429..... | 3 | 0 | Economics 408 | 3 | 0 |
| Highway Laws and Economics | | | Corporation Finance | | |
| *One subject from List C..... | 3 | | *One subject from List C..... | 3 | |

GROUP 2. HIGHWAY AND MUNICIPAL ENGINEERING.

| | | | | | |
|------------------------------|----|----|------------------------------|----|----|
| Civil Engineering 401..... | 0 | 4 | Biology 418 | 2 | 4 |
| Railroad Drafting | | | Water Bacteriology | | |
| Civil Engineering 413..... | 2 | 0 | Civil Engineering 410..... | 2 | 0 |
| El. of Reinforced Concrete | | | Contracts and Specifications | | |
| Civil Engineering 415..... | 4 | 0 | Civil Engineering 418..... | 1 | 3 |
| High. Const. and Maintenance | | | Highway Materials | | |
| Civil Engineering 417..... | 1 | 3 | Civil Engineering 426..... | 1 | 5 |
| Highway Materials | | | Highway Bridges and Culverts | | |
| Civil Engineering 423..... | 2 | 3 | Civil Engineering 440..... | 4 | 2 |
| Bridge Design | | | Sanitary Engineering | | |
| Economics 403 | 3 | 0 | English 402 | 1 | 0 |
| Fundamental Principles | | | Public Speaking | | |
| English 401 | 1 | 0 | | | |
| Public Speaking | | | | | |
| | — | — | | — | — |
| | 13 | 10 | | 11 | 14 |

And one subject from the following:

| | | | | | |
|-------------------------------|---|---|-------------------------------|---|---|
| Civil Engineering 429..... | 3 | 0 | Chemical Engineering 410.... | 1 | 3 |
| Highway Laws and Economics | | | Water Treatment | | |
| Geology 409 | 2 | 2 | Economics 408 | 3 | 0 |
| Engineering Geology | | | Corporation Finance | | |
| *One subject from List C..... | 3 | | *One subject from List C..... | 3 | |

*For List C, see page 130.

V.—COURSE IN ELECTRICAL ENGINEERING.

FRESHMAN YEAR.

See page 117.

SOPHOMORE YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|---------------------------------|-----------------|-----|---------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Drawing 201a | 0 | 2 | Civil Engineering 206..... | 1 | 3 |
| Mechanical | | | Surveying | | |
| Electrical Engineering 201.... | 4 | 4 | Drawing 202a | 0 | 2 |
| Electricity and Magnetism | | | Mechanical | | |
| English 203 | 2 | 0 | Electrical Engineering 202.... | 2 | 4 |
| Composition | | | Elementary | | |
| Mathematics 203 | 5 | 0 | English 204 | 2 | 0 |
| Calculus | | | Composition | | |
| Mechanical Engineering 201... 0 | 3 | | Mathematics 204 | 5 | 0 |
| Pattern Making and Foundry | | | Calculus | | |
| Mil. Sci. 201, 203 or 205..... | 1 | 2 | Mechanical Engineering 214... 0 | 3 | |
| Physics 207 | 3 | 2 | Machine Shop | | |
| General | | | Mil. Sci. 202, 204 or 206..... | 1 | 2 |
| | | | Physics 208 | 3 | 2 |
| | | | General | | |
| | 15 | 13 | | 14 | 16 |

JUNIOR YEAR.

| | | | | | |
|---------------------------------|----|---|-----------------------------------|----|----|
| Civil Engineering 327..... | 3 | 0 | Civil Engineering 328..... | 0 | 2 |
| Mechanics of Materials | | | Mechanics of Materials Laboratory | | |
| Electrical Engineering 301.... | 4 | 6 | Electrical Engineering 302.... | 4 | 4 |
| Direct Currents | | | Alternating Currents | | |
| English 301 | 1 | 0 | Electrical Engineering 304.... | 0 | 4 |
| Argumentation | | | D. C. Design | | |
| Mechanical Engineering 307... 2 | 2 | | English 302 | 1 | 0 |
| Kinematics | | | Argumentation | | |
| Mechanical Engineering 317... 4 | 0 | | History 306 | 3 | 0 |
| Engineering Mechanics | | | Citizenship | | |
| | | | Mechanical Engineering 302... 5 | 0 | |
| | | | Steam Engines and Boilers | | |
| | 14 | 8 | | 13 | 10 |

And one subject from the following:

*One subject from List B..... 3 0 *One subject from List B..... 3 0

*For List B, see page 130. If Military Science 305, 306 be chosen it must be accompanied by Electrical Engineering 309, 310.

SENIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|---------------------------------|-----------------|-------|---------------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Economics 403 | 3 | 0 | Civil Engineering 410..... | 2 | 0 |
| Fundamental Principles | | | Contracts and Specifications | | |
| Electrical Engineering 401.... | 3 | 6 | Electrical Engineering 402.... | 3 | 4 |
| A. C. Machinery | | | A. C. Machinery | | |
| Electrical Engineering 403.... | 1 | 4 | Electrical Engineering 406.... | 2 | 2 |
| Electric Machine Design | | | Power Distribution | | |
| Electrical Engineering 423.... | 3 | 0 | Electrical Engineering 408.... | 0 | 2 |
| Electric Railways | | | General Problems | | |
| English 401 | 1 | 0 | Electrical Engineering 428.... | 2 | 0 |
| Public Speaking | | | Telephony | | |
| Mechanical Engineering 415... 0 | 3 | | Electrical Engineering 426.... | 1 | 2 |
| Laboratory | | | Illumination Engineering | | |
| | | | English 402 | 1 | 0 |
| | | | Public Speaking | | |
| | | | Mechanical Engineering 416... 0 | 3 | |
| | | | Laboratory | | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 11 | 13 | | 11 | 13 |

*For List B, see page 130.

And one subject from the following:

| | | | | | |
|-------------------------------|---|---|-------------------------------|---|---|
| Civil Engineering 411..... | 3 | 0 | Geology 412 | 3 | 3 |
| Hydraulics | | | General | | |
| *One subject from List C..... | 3 | 0 | *One subject from List C..... | 3 | 0 |

*For List C, see page 130. If Military Science 405, 406 be chosen it must be accompanied by Electrical Engineering 409, 410.

III.—COURSE IN MECHANICAL ENGINEERING.

FRESHMAN YEAR.

See page 117.

SOPHOMORE YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|----------------------------------|-----------------|-----|----------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Chemistry 207 | 2 | 3 | Chemistry 208 | 1 | 4 |
| Quantitative Analysis | | | Technical Analysis | | |
| English 203 | 2 | 0 | English-204 | 2 | 0 |
| Composition | | | Composition | | |
| Mathematics 203 | 5 | 0 | Mathematics 204 | 5 | 0 |
| Calculus | | | Calculus | | |
| Mechanical Engineering 201... 0 | 3 | | Mechanical Engineering 202... 0 | 3 | |
| Pattern Making and Foundry | | | Pattern Making and Foundry | | |
| Mechanical Engineering 207... 2 | 2 | | Mechanical Engineering 212... 3 | 0 | |
| Kinematics | | | Engineering Mechanics | | |
| Mil. Sci. 201, 203 or 205..... 1 | 2 | | Mil. Sci. 202, 204 or 206..... 1 | 2 | |
| Physics 203 | 3 | 3 | Physics 204 | 3 | 3 |
| General | | | General | | |
| | 15 | 13 | | 15 | 12 |

JUNIOR YEAR.

| | | | | | |
|--------------------------------|----|---|--------------------------------|----|----|
| Civil Engineering 305..... | 3 | 2 | Electrical Engineering 308.... | 2 | 3 |
| Mechanics of Materials | | | Electrical Machinery | | |
| Electrical Engineering 307.... | 3 | 0 | English 302 | 1 | 0 |
| Electrical Machinery | | | Argumentation | | |
| English 301 | 1 | 0 | History 306 | 3 | 0 |
| Argumentation | | | Citizenship | | |
| Mechanical Engineering 319... | 4 | 0 | Mechanical Engineering 320... | 4 | 0 |
| Engines and Boilers | | | Thermodynamics | | |
| Mechanical Engineering 303... | 0 | 3 | Mechanical Engineering 304... | 0 | 4 |
| Machine Design | | | Machine Design | | |
| Mechanical Engineering 313... | 3 | 0 | Mechanical Engineering 314... | 3 | 0 |
| Engineering Mechanics | | | Engineering Mechanics | | |
| Mechanical Engineering 309... | 0 | 3 | Mechanical Engineering 310... | 0 | 3 |
| Machine Shop | | | Machine Shop | | |
| | 14 | 8 | | 13 | 10 |

And one subject from the following:

*One subject from List B..... 3 0 *One subject from List B..... 3 0

SENIOR YEAR.

Required in all groups.

| | | | | | |
|-------------------------------|----|---|-------------------------------|---|---|
| Chemical Engineering 407..... | 3 | 0 | Chemical Engineering 408..... | 2 | 0 |
| Industrial Chemistry | | | Metallurgy | | |
| Civil Engineering 411..... | 3 | 0 | English 402 | 1 | 0 |
| Hydraulics | | | Public Speaking | | |
| Economics 403 | 3 | 0 | Mechanical Engineering 404... | 0 | 4 |
| Fundamental Principles | | | Laboratory | | |
| English 401 | 1 | 0 | Mechanical Engineering 410... | 3 | 0 |
| Public Speaking | | | Gas Engines | | |
| Mechanical Engineering 403... | 0 | 4 | Mechanical Engineering 412... | 3 | 0 |
| Laboratory | | | History and Biography | | |
| | — | — | | — | — |
| | 10 | 4 | | 9 | 4 |

*For List B, see page 130.

GROUP 1.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|---------------------------------|-----------------|-------|---------------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Mechanical Engineering 407... 2 | 2 | 0 | Mechanical Engineering 414... 2 | 2 | 0 |
| Thermodynamics | | | Steam Turbines | | |
| Mechanical Engineering 417... 2 | 2 | 4 | Mechanical Engineering 418... 2 | 2 | 4 |
| Power Plants and Equipment | | | Power Plants and Equipment | | |
| *Elective | 3 | | *Elective | 3 | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 7 | 4 | | 7 | 4 |

GROUP 2.

| | | | | | |
|---------------------------------|-------|-------|---------------------------------|-------|-------|
| Mechanical Engineering 419... 3 | 2 | | Mechanical Engineering 420... 3 | 2 | |
| Industrial Engineering | | | Industrial Engineering | | |
| Mechanical Engineering 421... 2 | 0 | | Mechanical Engineering 422... 2 | 0 | |
| Methods and Management | | | Methods and Management | | |
| *Elective | 3 | | *Elective | 3 | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 8 | 2 | | 8 | 2 |

GROUP 3.

| | | | | | |
|---------------------------------|-------|-------|---------------------------------|-------|-------|
| Mechanical Engineering 423... 2 | 0 | | Mechanical Engineering 424... 2 | 0 | |
| Transportation | | | Transportation | | |
| Mechanical Engineering 425... 2 | 4 | | Mechanical Engineering 426... 2 | 4 | |
| Railway Mech. Engineering | | | Railway Mech. Engineering | | |
| *Elective | 3 | | *Elective | 3 | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 7 | 4 | | 7 | 4 |

*The student will elect one of the following, or any other approved elective:

*One subject from List C..... 3

*One subject from List C..... 3

*For List C, see page 130.

VI.—COURSE IN TEXTILE ENGINEERING.

FRESHMAN YEAR.

See page 117.

SOPHOMORE YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------|-----------------|-----|--------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Chemistry 207 | 2 | 3 | Chemistry 208 | 1 | 4 |
| Quantitative Analysis | | | Technical Analysis | | |
| Drawing 201a | 0 | 2 | Civil Engineering 206..... | 1 | 3 |
| Mechanical | | | Surveying | | |
| English 203 | 2 | 0 | Drawing 202a | 0 | 2 |
| Composition | | | Mechanical | | |
| Mathematics 205 | 5 | 0 | English 204 | 2 | 0 |
| Calculus | | | Composition | | |
| Mechanical Engineering 205... | 2 | 0 | Mechanical Engineering 208... | 2 | 2 |
| Elementary Steam Engineering | | | Kinematics | | |
| Military Science 201 or 203... | 1 | 2 | Military Science 202 or 204... | 1 | 2 |
| Physics 203 | 3 | 3 | Physics 204 | 3 | 3 |
| General | | | General | | |
| Textile Engineering 207..... | 0 | 3 | Textile Engineering 206..... | 0 | 3 |
| Weaving | | | Yarn Manufacture | | |
| | — | — | | — | — |
| | 15 | 13 | | 10 | 19 |

JUNIOR YEAR.

| | | | | | |
|--------------------------------|----|----|--------------------------------|----|----|
| Chemistry 305 | 3 | 2 | Chemistry 308 | 1 | 4 |
| Organic | | | Dyeing | | |
| Electrical Engineering 307.... | 3 | 0 | Electrical Engineering 308.... | 2 | 3 |
| Electrical Machinery | | | Electrical Machinery | | |
| English 303 | 2 | 0 | English 302 | 1 | 0 |
| Argumentation | | | Argumentation | | |
| Mechanical Engineering 309... | 0 | 3 | History 306 | 3 | 0 |
| Machine Shop | | | Citizenship | | |
| Textile Engineering 301..... | 2 | 3 | Textile Engineering 302..... | 0 | 2 |
| Yarn Manufacture | | | Yarn Manufacture | | |
| Textile Engineering 303..... | 0 | 3 | Textile Engineering 304..... | 0 | 3 |
| Fabric Design | | | Fabric Design | | |
| Textile Engineering 305..... | 0 | 3 | Textile Engineering 306..... | 3 | 3 |
| Weaving | | | Weaving | | |
| | — | — | | — | — |
| | 10 | 14 | | 10 | 15 |

*And one subject each term from List B.

SENIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|------------------------------|-----------------|-----|------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Economics 403 | 3 | 0 | English 402 | 1 | 0 |
| Fundamental Principles | | | Public Speaking | | |
| English 401 | 1 | 0 | Textile Engineering 402..... | 2 | 3 |
| Public Speaking | | | Yarn Manufacture | | |
| Textile Engineering 401..... | 3 | 2 | Textile Engineering 404..... | 1 | 0 |
| Yarn Manufacture | | | Fabric Analysis | | |
| Textile Engineering 407..... | 3 | 2 | Textile Engineering 408..... | 3 | 3 |
| Weaving | | | Weaving | | |
| Textile Engineering 413..... | 1 | 2 | Textile Engineering 410..... | 2 | 0 |
| Cotton Classing | | | Mill Management | | |
| Textile Engineering 415..... | 0 | 3 | Textile Engineering 412..... | 1 | 0 |
| Fabric Design | | | Magazine Review | | |
| *Elective | 6 | | Textile Engineering 416..... | 0 | 3 |
| | | | Fabric Design | | |
| | | | *Elective | 6 | |
| | 17 | 9 | | 16 | 9 |

*Two subjects each term from List C.

LIST B.

Junior electives common to all engineering courses.

| | | | | | |
|-------------------------------|---|---|-------------------------------|---|---|
| English 321 | 3 | 0 | English 322 | 3 | 0 |
| Literature | | | Literature | | |
| History 307 | 3 | 0 | History 308 | 3 | 0 |
| Europe since 1815 | | | Industrial History | | |
| *Military Science | 3 | 2 | *Military Science | 3 | 2 |
| Modern Lang. 311, 313 or 315. | 3 | 0 | Modern Lang. 312, 314 or 316. | 3 | 0 |
| French, German or Spanish | | | French, German or Spanish | | |

LIST C.

Senior electives common to all engineering courses.

| | | | | | |
|--------------------------------|---|---|---|---|---|
| English 403 | 3 | 0 | Economics 408 | 3 | 0 |
| Public Speaking | | | Corporation Finance | | |
| *Military Science | 3 | 2 | English 404 | 3 | 0 |
| Modern Lang. 421, 423 or 425. | 3 | 0 | Public Speaking | | |
| French, German or Spanish | | | *Military Science | 3 | 2 |
| Vocational Teaching 423..... | 3 | 0 | Modern Lang. 422, 424 or 426. | 3 | 0 |
| Psychology Applied to Industry | | | French, German or Spanish | | |
| | | | Vocational Teaching 424..... | 3 | 0 |
| | | | Training and Supervising Workers in Industrial Plants | | |

*Note.—If Military Science 305, 306 and Military Science 405, 406 are elected they must be accompanied by Electrical Engineering 309, 310 and Electrical Engineering 409, 410, respectively.

XIII.—COURSE IN INDUSTRIAL EDUCATION.

FRESHMAN YEAR.

See page 117.

SOPHOMORE YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|----------------------------------|-----------------|-----|----------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Chemical Engineering 201..... | 3 | 0 | Agricultural Engineering 206... | 2 | 4 |
| Industrial Chemistry | | | Gas Engines | | |
| Drawing 201 | 0 | 3 | Architecture 210 | 2 | 0 |
| Mechanical | | | Carpentry | | |
| Drawing 203 | 0 | 3 | Chemical Engineering 208..... | 2 | 0 |
| Color Harmony and Design | | | Metallurgy | | |
| English 203 | 2 | 0 | Electrical Engineering 206.... | 2 | 2 |
| Composition | | | Motors, Wiring, Lighting | | |
| Mechanical Engineering 201... 0 | 3 | | English 204 | 2 | 0 |
| Pat. Making and Foundry Work | | | Composition | | |
| Mechanical Engineering 205... 2 | 0 | | Mechanical Engineering 202... 0 | 3 | |
| Elementary Steam Engineering | | | Pat. Making and Foundry Work | | |
| Mechanical Engineering 207... 2 | 2 | | Military Science 202 or 204... 1 | 2 | |
| Kinematics | | | Physics 204 | 3 | 3 |
| Military Science 201 or 203... 1 | 2 | | General | | |
| Physics 203 | 3 | 3 | | | |
| General | | | | | |
| | — | — | | — | — |
| | 13 | 16 | | 14 | 14 |

JUNIOR YEAR.

| | | | | | |
|---------------------------------|----|---|---------------------------------|----|---|
| Drawing 317 | 0 | 3 | Architecture 316 | 3 | 0 |
| Elementary Arch. Drawing | | | Mechanical Equipment | | |
| History 305 | 3 | 0 | Drawing 318 .. | 0 | 3 |
| Citizenship | | | Machine Drawing | | |
| Mechanical Engineering 309... 0 | 3 | | History 308 | 3 | 0 |
| Machine Shop | | | Industrial History | | |
| Mechanical Engineering 311... 0 | 3 | | Mechanical Engineering 310... 0 | 3 | |
| Carpentry and Cabinet Making | | | Machine Shop Work | | |
| Vocational Teaching 305..... 3 | 0 | | Vocational Teaching 308..... 3 | 0 | |
| Vocational Education | | | Educational Psychology | | |
| Vocational Teaching 311..... 3 | 0 | | *Elective | 8 | 0 |
| Job Analysis | | | | | |
| *Elective | 7 | 0 | | | |
| | — | — | | — | — |
| | 16 | 9 | | 17 | 6 |

SENIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--|-----------------|-------|--------------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Economics 403 | 3 | 0 | Agricultural Engineering 420.. | 2 | 4 |
| Fundamental Principles | | | Auto Mechanics | | |
| English 401 | 1 | 0 | English 402 | 1 | 0 |
| Public Speaking | | | Public Speaking | | |
| Vocational Teaching 417..... | 2 | 2 | Vocational Teaching 416..... | 3 | 0 |
| Lesson Planning and Method of Teaching | | | Adm. and Sup of Ind. Ed. | | |
| Vocational Teaching 421..... | 2 | 2 | *Elective | 12 | |
| Class Room Organization and Management | | | | | |
| *Elective | 10 | | | | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 18 | 4 | | 18 | 4 |

*Students of Industrial Education are advised to choose their electives with the purpose in view of making themselves strong in some special field of industrial education. Ample opportunities for choosing electives are afforded in the Architectural, Chemical, Civil, Electrical, Mechanical, Textile Engineering Departments; and in the Drawing, Mathematics and Physics Departments.

COURSE IN ARCHITECTURE.

(Leading to the Degree of Master of Science in Architecture.)

FIFTH YEAR.

| | | | | | |
|------------------------|---|----|------------------------|---|----|
| Architecture 501 | 0 | 18 | Architecture 502 | 0 | 18 |
| Design | | | Design | | |
| Architecture 503 | 2 | 0 | Architecture 504 | 2 | 0 |
| Advanced Construction | | | Advanced Construction | | |
| Drawing 509 | 0 | 4 | Drawing 510 | 0 | 4 |
| Rendering | | | Rendering | | |
| Horticulture 415 | 3 | 4 | Horticulture 416 | 3 | 4 |
| Landscape Art | | | Landscape Art | | |
| Elective | 3 | | Elective | 3 | |

COURSE IN CHEMICAL ENGINEERING.

(Leading to the Degree of Chemical Engineer.)

FIFTH YEAR.

| | | | | | |
|-------------------------------|-------|-------|-------------------------------|-------|-------|
| Chemical Engineering 503..... | 2 | 12 | Chemical Engineering 504..... | 2 | 12 |
| Advanced Industrial Chemistry | | | Advanced Industrial Chemistry | | |
| Chemical Engineering 505..... | 2 | 4 | Chemical Engineering 506..... | 2 | 4 |
| Rarer Elements | | | Chemical Preparations | | |
| Elective | 6 | | Elective | 6 | |
| Thesis | 3 | | Thesis | 3 | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 13 | 16 | | 13 | 16 |

COURSE IN CIVIL ENGINEERING.

(Leading to the Degree of Civil Engineer.)

Each candidate for the advanced degree must select from the list of subjects shown below, or others approved by the head of the course and the Committee on Graduate Studies, at least twenty-one term-hours each term.

FIFTH YEAR.

| First Term. | | | Second Term. | | |
|----------------------------|---|---|----------------------------|---|---|
| Hours per week. | | | Hours per week. | | |
| Th. Pr. | | | Th. Pr. | | |
| Civil Engineering 501..... | 2 | 0 | Civil Engineering 502..... | 2 | 0 |
| Least Squares | | | Geodesy | | |
| Civil Engineering 503..... | 2 | 0 | Civil Engineering 504..... | 2 | 0 |
| Water Powers | | | Astronomy | | |
| Civil Engineering 505..... | 2 | 0 | Civil Engineering 506..... | 2 | 0 |
| Sanitary Science | | | Reclamation Engineering | | |
| Civil Engineering 507..... | 3 | 4 | Civil Engineering 508..... | 2 | 6 |
| Advanced Bridge Analysis | | | Higher Structures | | |
| Civil Engineering 509..... | 3 | 3 | Civil Engineering 510..... | 3 | 3 |
| General Civil Engineering | | | General Civil Engineering | | |
| Civil Engineering 511..... | 1 | 3 | Civil Engineering 512..... | 1 | 3 |
| Thesis | | | Thesis | | |
| Civil Engineering 513..... | 3 | 0 | Civil Engineering 514..... | 3 | 0 |
| Highway Construction and | | | Highway Financing and | | |
| Maintenance | | | Estimating | | |
| Civil Engineering 515..... | 1 | 3 | Civil Engineering 516..... | 1 | 3 |
| Highway Materials | | | Highway Materials | | |
| Elective | 3 | | Elective | 3 | |

COURSE IN ELECTRICAL ENGINEERING.

(Leading to the Degree of Electrical Engineering.)

FIFTH YEAR.

| | | | | | |
|--------------------------------|----|---|--------------------------------|----|---|
| Electrical Engineering 501.... | 3 | 0 | Electrical Engineering 502.... | 3 | 0 |
| Advanced Alternating Currents | | | Advanced Alternating Currents | | |
| Electrical Engineering 503.... | 3 | 0 | Electrical Engineering 504.... | 3 | 0 |
| Electrical Machine Design | | | Power Plant Design | | |
| Electrical Engineering 505.... | 3 | 0 | Electrical Engineering 506.... | 3 | 0 |
| General Electrical Engineering | | | General Electrical Engineering | | |
| Electrical Engineering 507.... | 0 | 8 | Electrical Engineering 508.... | 0 | 8 |
| Laboratory | | | Laboratory | | |
| Elective | 6 | | Elective | 6 | |
| Thesis | 2 | | Thesis | 2 | |
| | 17 | 8 | | 17 | 8 |

COURSE IN MECHANICAL ENGINEERING.

(Leading to the Degree of Mechanical Engineer.)

FIFTH YEAR.

| | | | | | |
|---------------------------------|----|----|---------------------------------|----|----|
| Mathematics 501 | 4 | 0 | Mathematics 502 | 4 | 0 |
| Calculus | | | Differential Equations | | |
| Mechanical Engineering 501... 2 | 4 | | Mechanical Engineering 502... 2 | 4 | |
| General Mechanical Engineering | | | General Mechanical Engineering | | |
| Mechanical Engineering 503... 3 | 0 | | Mechanical Engineering 504... 3 | 0 | |
| Power Plants | | | Power Plants | | |
| Mechanical Engineering 509... 1 | 6 | | Mechanical Engineering 510... 1 | 6 | |
| Thesis | | | Thesis | | |
| Elective | 5 | | Elective | 5 | |
| | 15 | 10 | | 15 | 10 |

H.—TWO-YEAR COURSE IN TEXTILE ENGINEERING.

FIRST YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|-------------------------------|-----------------|-----|-------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Drawing 11 | 0 | 3 | Drawing 12 | 0 | 3 |
| Mechanical | | | Mechanical | | |
| Drawing 13 | 0 | 1 | Drawing 14 | 0 | 1 |
| Freehand | | | Freehand | | |
| English 31 | 3 | 0 | English 32 | 3 | 0 |
| Practical Composition | | | Practical Composition | | |
| Mechanical Engineering 21.... | 4 | 0 | Mechanical Engineering 22.... | 4 | 0 |
| Power and Heat | | | Power and Heat | | |
| Mechanical Engineering 25.... | 0 | 4 | Mechanical Engineering 26.... | 0 | 4 |
| Forging | | | Woodwork | | |
| Military Science 11..... | 1 | 2 | Military Science 12..... | 1 | 2 |
| Physics 11 | 2 | 2 | Physics 12 | 2 | 2 |
| Elementary | | | Elementary | | |
| Textile Engineering 11..... | 0 | 3 | Textile Engineering 12..... | 0 | 3 |
| Designing | | | Designing | | |
| Textile Engineering 13..... | 4 | 3 | Textile Engineering 16..... | 3 | 3 |
| Yarn Manufacture | | | Weaving | | |
| | — | — | | — | — |
| | 14 | 18 | | 13 | 18 |

SECOND YEAR.

| | | | | | |
|-------------------------------|----|----|-------------------------------|----|----|
| Chemistry 51 | 3 | 2 | Chemistry 54 | 2 | 2 |
| Practical Chemistry | | | Dyeing | | |
| Mechanical Engineering 61.... | 0 | 3 | Mechanical Engineering 62.... | 0 | 3 |
| Machine Shop Practice | | | Machine Shop Practice | | |
| Mechanical Engineering 75.... | 4 | 0 | Mechanical Engineering 76.... | 4 | 0 |
| Engines and Boilers | | | Engines and Boilers | | |
| Military Science 51..... | 1 | 2 | Military Science 52..... | 1 | 2 |
| Textile Engineering 51..... | 3 | 2 | Textile Engineering 52..... | 3 | 4 |
| Yarn Manufacture | | | Yarn Manufacture | | |
| Textile Engineering 53..... | 0 | 3 | Textile Engineering 54..... | 0 | 3 |
| Designing | | | Designing | | |
| Textile Engineering 55..... | 3 | 2 | Textile Engineering 56..... | 3 | 4 |
| Weaving | | | Weaving | | |
| Textile Engineering 61..... | 1 | 2 | Textile Engineering 58..... | 1 | 0 |
| Cotton Classing | | | Fabric Analysis | | |
| | — | — | | — | — |
| | 15 | 16 | | 14 | 18 |

N.—TWO-YEAR COURSE IN ENGINEERING.

FIRST YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------|-----------------|-----|--------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Drawing 11 | 0 | 3 | Drawing 12 | 0 | 3 |
| Mechanical | | | Mechanical | | |
| Drawing 13 | 0 | 1 | Drawing 14 | 0 | 1 |
| Freehand | | | Freehand | | |
| Electrical Engineering 21..... | 4 | 4 | Electrical Engineering 22..... | 4 | 4 |
| Elementary Electricity | | | Elementary Electricity | | |
| English 31 | 3 | 0 | English 32 | 3 | 0 |
| Practical Composition | | | Practical Composition | | |
| Mechanical Engineering 21..... | 4 | 0 | Mechanical Engineering 22..... | 4 | 0 |
| Power and Heat | | | Power and Heat | | |
| Mechanical Engineering 25..... | 0 | 4 | Mechanical Engineering 26..... | 0 | 4 |
| Forging | | | Woodwork | | |
| Military Science 11..... | 1 | 2 | Military Science 12..... | 1 | 2 |
| Physics 11 | 2 | 2 | Physics 12 | 2 | 2 |
| Elementary | | | Elementary | | |
| | — | — | | — | — |
| | 14 | 16 | | 14 | 16 |

SECOND YEAR.

| | | | | | |
|--------------------------------|----|---|--------------------------------|----|---|
| Electrical Engineering 55..... | 5 | 4 | Electrical Engineering 56..... | 5 | 4 |
| Alternating Currents | | | Electrical Machinery | | |
| Mechanical Engineering 75..... | 4 | 0 | Mechanical Engineering 76..... | 4 | 0 |
| Engines and Boilers | | | Engines and Boilers | | |
| Mechanical Engineering 63..... | 0 | 3 | Mechanical Engineering 64..... | 0 | 3 |
| Engineering Laboratory | | | Engineering Laboratory | | |
| Military Science 51..... | 1 | 2 | Military Science 52..... | 1 | 2 |
| | — | — | | — | — |
| | 10 | 9 | | 10 | 9 |

And one of the following groups:

GROUP 1.

| | | | | | |
|--------------------------------|---|---|--------------------------------|---|---|
| Electrical Engineering 65..... | 3 | 0 | Electrical Engineering 66..... | 3 | 0 |
| Applied Electricity | | | Applied Electricity | | |
| Electrical Engineering 61..... | 0 | 4 | Electrical Engineering 62..... | 0 | 4 |
| Electrical Laboratory | | | Electrical Laboratory | | |
| Mechanical Engineering 61..... | 0 | 3 | Mechanical Engineering 62..... | 0 | 3 |
| Machine Shop | | | Machine Shop | | |

GROUP 2.

| | | | | | |
|--------------------------------|---|---|--------------------------------|---|---|
| Mechanical Engineering 65..... | 3 | 2 | Mechanical Engineering 66..... | 3 | 2 |
| Shop Methods | | | Shop Methods | | |
| Mechanical Engineering 71..... | 0 | 5 | Mechanical Engineering 72..... | 0 | 5 |
| Foundry and Machine Shop | | | Foundry and Machine Shop | | |

XI.—COURSE IN VETERINARY MEDICINE.

FRESHMAN YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------|-----------------|-----|--------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Biology 101 | 2 | 4 | Biology 102 | 2 | 4 |
| General Botany | | | General Botany | | |
| Chemistry 101 | 3 | 3 | Chemistry 102 | 3 | 3 |
| Inorganic | | | Inorganic | | |
| English 103 | 3 | 0 | English 104 | 3 | 0 |
| Rhetoric and Composition | | | Rhetoric and Composition | | |
| Mil. Sci. 101, 103 or 105..... | 1 | 2 | Mil. Sci. 102, 104 or 106..... | 1 | 2 |
| Physics 111 | 2 | 2 | Physics 112 | 2 | 2 |
| Agricultural Physics | | | Agricultural Physics | | |
| Veterinary Anatomy 111..... | 3 | 6 | Veterinary Anatomy 112..... | 3 | 6 |
| Veterinary Phys. and Phar. 121 | 2 | 0 | Veterinary Phys. and Phar. 122 | 2 | 0 |
| Physiology | | | Physiology | | |
| | 16 | 17 | | 16 | 17 |

SOPHOMORE YEAR.

| | | | | | |
|--------------------------------|----|----|--------------------------------|----|----|
| Biology 209 | 2 | 4 | Animal Husbandry 204..... | 2 | 4 |
| General Bacteriology | | | Judging | | |
| English 203 | 2 | 0 | Biology 208 | 2 | 4 |
| Composition | | | Zoology | | |
| Entomology 203 | 3 | 2 | Chemistry 206 | 3 | 2 |
| Veterinary Entomology | | | Organic | | |
| Military Science 201 or 203... | 1 | 2 | English 204 | 2 | 0 |
| Veterinary Anatomy 211..... | 3 | 6 | Composition | | |
| Anatomy of Domestic Animals | | | Military Science 202 or 204... | 1 | 2 |
| Veterinary Anatomy 213..... | 2 | 4 | Veterinary Pathology 242..... | 3 | 2 |
| Histology and Embryology | | | General | | |
| Veterinary Phys. and Phar. 221 | 2 | 0 | Veterinary Phys. and Phar. 222 | 3 | 4 |
| Physiology | | | Physiology | | |
| | 15 | 18 | | 16 | 18 |

JUNIOR YEAR.

| | | | | | |
|-------------------------------|----|----|-------------------------------|----|----|
| Dairy Husbandry 301..... | 2 | 2 | Animal Husbandry 302..... | 2 | 2 |
| Market Milk | | | Animal Breeding | | |
| English 301 | 1 | 0 | English 302 | 1 | 0 |
| Argumentation | | | Argumentation | | |
| Vet. Med. and Surgery 371.... | 0 | 7 | Vet. Med. and Surgery 372.... | 0 | 12 |
| Clinic | | | Clinic | | |
| Veterinary Medicine 351..... | 3 | 0 | Veterinary Medicine 352..... | 3 | 0 |
| Non-infectious Diseases | | | Non-infectious Diseases | | |
| Veterinary Pathology 341..... | 2 | 0 | Veterinary Pathology 342..... | 2 | 4 |
| Special | | | Special | | |
| Veterinary Pathology 343..... | 2 | 4 | Veterinary Pharmacology 334.. | 3 | 0 |
| Special Bacteriology | | | Pharmacology | | |
| Veterinary Pharmacology 333.. | 3 | 4 | Veterinary Surgery 362..... | 3 | 0 |
| Pharmacology | | | General | | |
| Veterinary Surgery 361..... | 3 | 0 | Elective | 3 | |
| General | | | | | |
| Elective | 3 | | | | |
| | 19 | 17 | | 17 | 18 |

SENIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|-------------------------------|-----------------|-----|-------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Animal Husbandry 409..... | 3 | 2 | English 402 | 1 | 0 |
| Animal Nutrition | | | Public Speaking | | |
| English 401 | 1 | 0 | Vet. Med. and Surgery 472... | 0 | 7 |
| Public Speaking | | | Clinic | | |
| Veterinary Medicine 453..... | 3 | 0 | Veterinary Medicine 452..... | 3 | 0 |
| Infectious Diseases | | | Practice of Medicine and | | |
| Vet. Med. and Surgery 471... | 0 | 7 | Jurisprudence | | |
| Clinic | | | Veterinary Pathology 444..... | 2 | 2 |
| Veterinary Medicine 451..... | 3 | 0 | Laboratory Diagnosis | | |
| Diseases of Small Animals and | | | Veterinary Pathology 442..... | 2 | 2 |
| Fowls | | | Meat Hygiene | | |
| Veterinary Pathology 441..... | 2 | 2 | Veterinary Pharmacology 432. | 1 | 2 |
| Immunology and Serum Therapy | | | Toxicology | | |
| Veterinary Pathology 443..... | 2 | 2 | Veterinary Surgery 462..... | 3 | 4 |
| Parasitology | | | Operative | | |
| Veterinary Surgery 461..... | 2 | 0 | Elective | 3 | |
| Obstetrics | | | | | |
| Elective | 3 | | | | |
| | — | — | | — | — |
| | 19 | 13 | | 15 | 17 |

X.—COURSE IN SCIENCE.

(For the Session 1922-23, this course will be open to Freshmen only.)

FRESHMAN YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------|-----------------|-----|--------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Biology 103 | 2 | 4 | Biology 104 | 2 | 4 |
| Botany | | | Botany | | |
| Chemistry 103 | 3 | 4 | Chemistry 104 | 3 | 4 |
| Inorganic | | | Inorganic | | |
| Drawing 119 | 0 | 2 | Drawing 120 | 0 | 2 |
| Mechanical | | | Freehand | | |
| English 103 | 3 | 0 | English 104 | 3 | 0 |
| Rhetoric and Composition | | | Rhetoric and Composition | | |
| Mathematics 101 | 3 | 0 | Mathematics 106 | 3 | 0 |
| Algebra | | | Trigonometry | | |
| Military Science | 1 | 2 | Military Science | 1 | 2 |
| Physics 103 | 3 | 2 | Physics 104 | 3 | 2 |
| College Physics | | | College Physics | | |
| | 15 | 14 | | 15 | 14 |

SOPHOMORE YEAR.

| | | | | | |
|---------------------------------|----------|---|---------------------------------|----------|---|
| English 203 | 2 | 0 | English 204 | 2 | 0 |
| Composition | | | Composition | | |
| History 207 | 3 | 0 | History 206 | 3 | 0 |
| Europe Since 1817 | | | Citizenship | | |
| Military Science | 1 | 2 | Military Science | 1 | 2 |
| Modern Lang. 211, 213 or 215. 3 | 0 | | Modern Lang. 212, 214 or 216. 3 | 0 | |
| French, German or Spanish | | | French, German or Spanish | | |
| *Elective | 10 to 12 | | *Elective | 10 to 12 | |
| | 21 | 2 | | 21 | 2 |

*Three subjects each term are to be elected from the following:

| | | |
|---|---|---|
| Biology 203, 204, Zoology | 2 | 4 |
| Chemistry 201, 202, Organic | 3 | 4 |
| Entomology 205, Systematic; 206, Economic | 2 | 2 |
| Geology 201, Physical Geography; 202, Industrial and Commercial Geography | 2 | 2 |
| Physics 201, 202, General | 3 | 3 |

Note.—The student who plans to take Physics in the junior year must substitute Mathematics 104 for one of the specified sophomore electives for the second term; and must take Mathematics 303, 304 in the junior year.

JUNIOR YEAR.

| | | | | | |
|------------------------------|----|---|-------------------------|----|---|
| Economics 305 | 3 | 0 | Economics 312 | 3 | 0 |
| Fundamental Principles | | | Money and Banking | | |
| English 303 | 2 | 0 | English 304 | 2 | 0 |
| Argumentation | | | Argumentation | | |
| *Elective | 16 | | *Elective | 16 | |
| | 21 | 0 | | 21 | 0 |

SENIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|-------------------------------|-----------------|-------|-------------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| English 401 | 1 | 0 | English 402 | 1 | 0 |
| Public Speaking | | | Public Speaking | | |
| English 423 | 2 | 0 | English 424 | 2 | 0 |
| Contemporary Literature | | | Contemporary Literature | | |
| Rural Sociology 411..... | 3 | 0 | Rural Sociology 412..... | 3 | 0 |
| Social Psychology | | | General Sociology | | |
| *Elective | 15 | | *Elective | 15 | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 21 | 0 | | 21 | 0 |

*The electives are to be chosen from the following list, and for each year must include:

(a) Two science subjects; of the two elected in the junior year, one must be continued through the senior year.

(b) One of the following: Literature, Modern Language, History.

LIST OF JUNIOR AND SENIOR ELECTIVES.

| | | |
|--|---|---|
| Biology 309, 310, General Bacteriology; 409, 410, Analytical Bacteriology | 2 | 4 |
| Biology 303, 304, Plant Physiology; 403, 404, Plant Pathology..... | 2 | 4 |
| Biology 317, 318, Vertebrate Anatomy; 419, 420, General Embryology... | 2 | 4 |
| Chemistry 315, Qualitative Analysis; Chemical Engineering 312 (Quantitative) | 2 | 8 |
| Chemical Engineering 411, Physical Chemistry; 414, Sanitary Chemistry.. | 3 | 4 |
| Drawing 319, Mechanical; 320, Freehand..... | 0 | 2 |
| English 321, 322, Victorian Literature..... | 3 | 0 |
| Entomology 311, 312, Systematic; 411, 412, Economic..... | 2 | 4 |
| Entomology 307, (3-2); 304 (Apiculture)..... | 2 | 2 |
| Entomology 312, Medical Entomology..... | 3 | 2 |
| Entomology 403, Entomological Literature (3-0); 408, Queen Rearing.... | 1 | 4 |
| Geology 301, General; 302, Historical..... | 3 | 2 |
| Geology 401, Mineralogy (1-6); 402, Economic..... | 3 | 2 |
| Geology 403, Petrology (2-4); 404, Petroleum Geology..... | 3 | 3 |
| History 411, 412, The Outline of History..... | 3 | 0 |
| Mathematics 303, 304, Calculus (5-0); 502, Differential Equations.... | 3 | 0 |
| Military Science | 3 | 2 |
| Modern Languages, 421, 422, French; 423, 424, German; or 425, 426, Spanish | 3 | 0 |
| Physics 301, Properties of Matter; 302, Heat..... | 3 | 3 |
| Physics 401, Optics; 402 Electricity and Magnetism..... | 3 | 3 |
| Physics 403, Kinetic Theory; 404, Electron Theory..... | 3 | 0 |

COURSES OF INSTRUCTION BY DEPARTMENTS.

The courses of instruction are described on the following pages under the department in which they are offered. Courses from 101 to 199 are for freshmen, 201 to 299 for sophomores, 301 to 399 for juniors, 401 to 499 for seniors, 501 to 599 for graduate students; 1 to 49 for first-year students in short courses; 51 to 99 for second-year students in short courses. First-term courses are given odd numbers, second-term courses, even numbers.

The figures in parenthesis following the name of a course indicate the number of hours per week, theory and practice, respectively, devoted to the course.

For convenience of reference, the departments are listed here in alphabetical order:

| | Page | | Page |
|--|------|--|------|
| Agricultural Economics..... | 142 | Geology..... | 204 |
| Agricultural Engineering..... | 146 | History..... | 209 |
| Agronomy..... | 150 | Horticulture..... | 210 |
| Animal Husbandry..... | 154 | Mathematics..... | 216 |
| Architecture..... | 160 | Mechanical Engineering..... | 218 |
| Biology..... | 163 | Military Science and Tactics.... | 224 |
| Chemistry and Chemical Engi- neering..... | 167 | Modern Languages..... | 231 |
| Civil Engineering..... | 175 | Physics..... | 232 |
| Dairy Husbandry..... | 182 | Rural Sociology..... | 235 |
| Drawing..... | 184 | Textile Engineering..... | 239 |
| Economics..... | 188 | Veterinary Anatomy..... | 242 |
| Electrical Engineering..... | 190 | Veterinary Medicine and Surgery. | 243 |
| English..... | 195 | Veterinary Pathology..... | 245 |
| Entomology..... | 197 | Veterinary Physiology and Pharmacology..... | 247 |
| Farm Management..... | 201 | Vocational Teaching..... | 249 |
| Forestry..... | 203 | | |

DEPARTMENT OF AGRICULTURAL ECONOMICS.

PROFESSOR BUECHEL.

201. *Principles of Accounting.* (1-4).

Theory and application of double entry bookkeeping, the use of the journal and other books of original entry; the ledger and its subdivisions; the trial balance, financial and operating statements; theory and classification of accounts; practice work for different types of business organizations, such as the single proprietor, partnership, and co-operation.

Texts: Principles of Bookkeeping, Miner and Elwell; Accounting, Theory and Practice, Kester.

(Required in XIV).

202. *Principles of Accounting.* (1-4).

This course is a continuation of 201. Numerous accounting problems are given involving such principles as opening and closing corporation books; changing from a single proprietorship to a partnership; from a partnership to a corporation, etc. Courses 201 and 202 are prerequisite to all other courses in accounting, including farm cost accounting.

Texts: Same as in 201.

(Required in XIV).

204. *Agricultural Resources.* (3-0).

Influence of climate, soil, and topography upon agriculture and industry. A statistical study of the agricultural resources of the world is made and the reasons for the prevailing distribution of agricultural products are sought. The various types of agriculture are first studied from the standpoint of environmental conditions rather than artificial political subdivisions, such as a nation or state. Comparisons are then made between the agricultural resources of the United States and the rest of the world, and between Texas and the rest of the United States. The relation between agriculture and industry is shown.

Text: Commerce and Industry, J. Russell Smith.

(Elective in I, XIV, group 1).

301. *Agricultural Economics.* (2-2).

Among the topics considered are the following: Scope and aims of agricultural economics; analysis of the factors in agricultural production, such as the supply of arable land in the nation, its classification and order of utilization; the amount and character of labor required in different parts of the United States; migratory labor; possibilities of improving type and conditions of agricultural labor; marketing, agricultural finance, co-operation, transportation. Distribution, including theories of rent, value of land and its relation to rent, methods of renting. Consumption, its effect upon rent, wages, interest, and national

prosperity. Agriculture and the State—tariffs, land settlement, taxation, and credit.

Text: *Agricultural Economics*, Taylor.

(Required in XIV).

302. *Agricultural Economics.* (2-2).

Same as course 301.

(Required in XIV, session 1922-23).

303. *Theory and Practice of Accounting.* (1-4)

Problems in valuation, good will, reserves and funds; consolidated statements; branch house accounting; insolvency accounting. Advanced problems in accounting, theory, and practice; C. P. A. examination questions.

Text: To be selected.

(Elective in XIV, group 1).

305. *Statistical Methods.* (1-4)

The meaning and application of statistics and statistical methods. Recent figures relating to Texas agriculture are arranged in tables and diagrams and are used as a basis for practice exercises on averages, dispersion, index numbers, historical series, and for the determination of coefficients of correlation, variation, etc. The immediate aim of the course is to give training in the technique of the more common statistical manipulations so that the student may attack an actual problem in the social sciences with accuracy and confidence.

Text: *Elements of Statistical Method*, King.

(Required in XIV).

308. *Cost Accounting.* (1-4).

This course deals with elements entering into cost of production, including the accounting for materials, labor, and overhead expenses; cost data and their interpretation; and the organization of cost systems.

Text: To be selected.

Prerequisite: *Agricultural Economics* 303.

(Elective in XIV, group 1).

401. *Marketing.* (3-0)

The economic basis of marketing. The various services in the process of marketing such as grading and standardizing, packaging, processing, transporting, storing, financing, and distributing farm products. Essentials of success; fundamentals of co-operative marketing; marketing methods, marketing agencies; the market and price making; weaknesses in the present marketing system; organization the basis of improvement; future trading; government authority in relation to marketing; marketing by federation.

Text: *Marketing of Agricultural Products*, Hibbard.

(Required in XIV).

402. *Property and Contract.* (3-0).

Problems of property and the social theory of property; conscious social action with reference to property and the evolution of property; the several classes of property; property and economic theory; property and the individual; property and the future; property and contract.

Text: Property and Contract, Ely.

(Required in XIV).

403. *Auditing.* (1-2).

Preparation of audit reports; C. P. A. examination questions in auditing.

Text: To be selected.

Prerequisite: Agricultural Economics 308.

(Elective in XIV, group 1).

405. *Historical Development of Agricultural Economics.* (2-0).

Agricultural economics defined and described. Origin of agricultural economics; historical developments of agricultural economics in Rome, England, Germany, and France. This part of the historical work deals very largely with the biographical sketches of the writers concerned and with the history of economic conditions at the time they wrote, especially as related to agriculture. Relation of agricultural economics to general economics; deals with the early French economists, with the classical economists, and with the critics of the classical economists. Relation of agricultural economics to agriculture; deals especially with works of men like Arthur Young, Albrecht Thaer, and Von Thunen. Modern agricultural economics; relation of general economics to agriculture. The courses of interest in agricultural economic subjects. Recent developments in agricultural economics; relation of agricultural economics to farmers' movements; essentials of a sound agricultural economics course.

Text: To be selected.

(Elective in XIV, group 1).

406. *Advanced Marketing Problems.* (1-2).

An intensive study is made by each student of some current marketing problem. Field work is required in connection with the course.

Text: To be selected.

Prerequisite: Agricultural Economics 401.

(Elective in XIV, group 1).

407. *Ranch Economics.* (3-0).

The respective domains of the farmer and the grazier; ranch economics defined; the area described; historical sketch of ranching; ranch lands; the size of ranches; the carrying capacity of the ranches; permanent improvemental movable equipment; products of the range; the

conservation of the ranch; problems of acquiring a ranch; ranch credits; ranch labor.

Text: To be selected.

(Elective in XIV, group 1).

408. *Agricultural Finance.* (2-0).

A study of short, medium, and long term credit needs of farmers; a brief survey of European co-operative credit systems. Special attention is given to such credit institutions as the Federal Farm Loan System and War Finance Corporation, and a comparative study is made of the farm credit institutions of various States.

Text: To be selected.

(Elective in XIV, group 1).

409. *Land Problems and Land Policies.* (2-0).

Definition of term and historical setting; land defined and described; land classification; economics of agricultural land; economics of forest land; economics of mineral land; economics of water rights; economics of riparian rights; economics of urban land; economics of land for highways; economic foundations of a land policy; land policy of some of the leading European countries; land policy of the United States; Texas land policy; a sound land policy for Texas.

Text: To be selected.

(Elective in XIV, group 1).

410. *Transportation.* (3-0).

A brief historical survey of transportation. Special attention is given to current transportation problems, including the Esch-Cummins bill; relation between agriculture and transportation.

Text: To be selected.

(Elective in XIV, group 1).

411. *Agricultural Economics.* (2-2).

Same as course 301.

(Required in I).

412. *Public Finance and Taxation.* (3-0).

Principles of taxation and the more important taxes such as the general property tax, income tax, and inheritance tax, proposals for tax reform; relative tax burdens on agricultural land; public expenditures; budgets, and budgetary legislation.

Text: To be selected.

(Elective in XIV, group 1).

413. *Advanced Statistics.* (1-4).

Business statistics; various series of index numbers; determination

of secular trend. Each student will select a statistical problem for a term report.

Text: To be selected.

Prerequisite: Agricultural Economics 305.

(Elective).

414. *Public Accounting.* (1-2).

Devising of accounting systems, with special reference to agricultural organizations; advanced auditing problems; C. P. A. examinations.

(Elective in XIV, group 1).

415. *Statistics.* (3-0).

Same as Economics 405 of the 45th Catalogue.

(Required in XIV, sessions 1922-23, 1923-24).

DEPARTMENT OF AGRICULTURAL ENGINEERING.

PROFESSOR SCOATES, ASSOCIATE PROFESSORS SNYDER, H. P. SMITH,
MR. KING, MR. F. R. JONES.

201. *Farm Machinery.* (2-2).

The practical study of all types of farm machinery; tilling, seeding, cultivating, harvesting, fertilizing and power machinery.

The practice consists of a detailed study of the construction, adjustment, calibration and operation of all types of farm machinery.

Demonstrations and tests are made under field conditions.

(Required in C, M).

203. *Gas Engines.* (2-2).

This course deals with the farm gas engine, its operation, care and repair. The practice consists of the operation, testing and examination of the different types of farm gas engines. Laboratory fee, \$1.50.

(Required in XII; elective in C and in I).

204. *Farm Machinery.* (2-2).

Same as course 201.

(Required in I).

206. *Gas Engines.* (2-4).

Same as course 203, with two hours more laboratory. Laboratory fee, \$1.50.

(Required in M and in XIII).

211. *Gas Engines.* (2-4).

Same as course 206. Laboratory fee, \$1.50.

(Required in XV).

214. *Tractors.* (2-4).

Same as course 317. Laboratory fee, \$2.00.

(Required in XV).

302. Repair of Farm Machinery. (0-4).

The overhauling, repairing and painting of farm machinery, and the use of repair catalogues.

Prerequisite: Agricultural Engineering 201.

(Required in M; elective in I).

304. Drainage. (2-2).

A study of farm drainage, i. e., open ditches, terracing and tile drains. Laboratory practice consists of surveying for tile drains, laying off and building terraces.

Prerequisite: Civil Engineering 319.

(Elective in I).

305. Surveying and Drainage. (3-4).

A study of farm surveying and the principles of farm drainage, as applied to open ditches, terracing, and tile drains.

The practice consists of surveys of various parts of the farm with tape and level, computation of areas, map making, tile laying, locating and building terraces.

(Required in I, group 3; elective in all other groups and in C; required in M).

314. Tractors. (2-4).

Same as course 317. Laboratory fee, \$2.00.

Prerequisite: Agricultural Engineering 203.

(Required in I, group 3; elective in all other groups and in C).

316. Irrigation. (2-2).

A study of the principles of irrigation practice, source of water supply, and methods of application to various crops, the measurement and duty of water.

The practice consists of measuring water and the laying out of ditches and irrigation systems.

(Elective in I, M, C).

317. Tractors. (2-4).

A study of the design, operation and repair of different types of gas tractors.

The practice consists of a study of the different parts of gas tractors, with tests. Laboratory fee, \$2.00.

Prerequisite: Agricultural Engineering 203.

(Elective in I, all groups; required in M).

318. Farm Shop. (1-6).

This course is especially designed for students intending to teach agricultural engineering in vocational schools. The work includes such subjects as are usually taught in vocational high schools, such as solder-

ing, belt lacing, rope knots and splices, concrete construction, carpentry, and sufficient forging to enable the student to make ordinary farm repairs. Laboratory fee, \$2.50.
(Required in XII).

320. *Farm Machinery.* (2-4).

Same as course 204, with two hours more laboratory.
(Required in XV).

402. *Automobiles and Motor Trucks.* (2-4).

The study of the construction, care, repair and operation of the gasoline automobile and truck.

The practice consists of a study in the laboratory of various types of construction as applied to the different parts of the modern automobile and motor truck. Laboratory fee, \$1.50.

Text: *The Gasoline Automobile*, Hobbs, Elliott and Consoliver.

Prerequisite: Agricultural Engineering 203.

(Required in I, group 3; elective in other groups; required in XV, M; elective in C).

404. *Experimental Agricultural Engineering.* (0-6).

A course for advanced undergraduates who are especially interested in solving some agricultural engineering problem.
(Elective).

409. *Farm Concrete.* (1-2).

A study of the selection of materials used for concrete, and their proper mixing, placing and curing, together with the construction of concrete structures such as are found on the farm.

The practice consists of the design and construction of molds and forms, methods of reinforcing, and proportions of mixture to be used in various farm buildings and equipment. Laboratory fee, \$1.50.

(Required in M; elective in I, C).

410. *Irrigation.* (2-0).

A modification of course 316.

(Required in XV).

413. *Farm Buildings.* (2-4).

The study of building materials, and of the design and location of farm buildings. Ventilation, lighting, heating, water supply, plumbing, sewage disposal are studied briefly in their relation to rural conditions.

Practice in the use and care of drawing instruments. Complete working drawings, with tracings and blue prints of farm buildings are made.

(Required in I, group 3; XV and in M; elective in all other groups of I).

414. *Farm Buildings.* (0-4).

A continuation of course 413. Complete plans, specifications and bills of material are worked up for various farm buildings.

(Required in M; elective in I).

415. *Drainage.* (2-2).

Same as course 304.

(Required in XV).

418. *Designing of Farm Structures.* (3-2).

A continuation of course 413.

(Required in XV).

420. *Auto Mechanics.* (2-4).

The study of the construction, care, repair and operation of the gas engine and of the automobile.

The practice consists of the operation, testing and examination of the gas engine and the automobile. Laboratory fee, \$1.50.

(Required in XIII).

FOR STUDENTS IN SHORT COURSES.

31, 32. *Shop Computations.* (3-0).

An elementary course in shop computations involving the application of algebra, geometry and trigonometry to shop work.

Text: Advanced Shop Mathematics, Norris and Craigo.

(Required in M).

FOR GRADUATES.

501, 502. *Advanced Drainage and Irrigation.* (3-4). *Major.*

This course consists of an advanced study of farm drainage and irrigation. Recent developments in these subjects are reviewed, the student using bulletins, scientific journals and advanced text-books.

Original designs of drainage and irrigation systems are made to fit conditions on typical farms. Drainage is taken up the first term, and irrigation the second.

501a, 502a. *Advanced Drainage and Irrigation.* (2-4). *Minor.*

A modification of course 501, 502.

DEPARTMENT OF AGRONOMY.

PROFESSOR MORGAN, PROFESSOR HUMBERT, ASSOCIATE PROFESSORS
WOOD, STALLINGS, MR. STURKIE, MR. CORPENING.

102. *Field Crops.* (3-2).

This course includes a detailed study of the following field crops: cotton, corn, wheat, oats, rye, barley, rice, the saccharine and non-saccharine sorghums, sugar cane and peanuts. Each crop is considered from the standpoint of origin, varieties, improvement, tillage practices, harvesting and uses.

Text: *Field Crops for the Cotton Belt*, Morgan.

In the laboratory, field, and greenhouse, the student makes a detailed study of the important characteristics of these crops, including varietal studies. Special consideration is given to the seeds of these crops, particularly as regards those points that determine value.

(Required in I).

103. *Field Crops.* (3-2).

Same as course 102.

(Required in XIV).

202. *Field Crops.* (3-2).

Same as course 102.

(Required in XII).

301. *Soils.* (3-2).

This course gives the student a rather comprehensive knowledge of the soil and its management. It is given according to the following outline:

(a) The soil as a medium for root development, including a study of rock and its products; the soil mass, together with the physical properties of the soil and their modification; the organic content of the soil.

(b) The soil as a reservoir for water, including the functions of water in plant growth; the amount of water in the soil; the movement of soil water, and the control of soil water.

(c) Plant nutrients in the soil, including a careful study of both micro-organisms and macro-organisms, as they influence soil productivity.

(d) The soil air; composition and functions of.

(e) The heat of the soil; comprising a study of the sources, functions and means of modifying soil temperature.

(f) External factors in soil management; tillage, crop adaptation, etc.

Text: *Soils*, Lyon, Fippin and Buckman.

In the laboratory the student applies the principles learned in the class room to the actual management of soils. Laboratory fee, 50 cents.

Prerequisite: Chemistry 101, 102.

(Required in I, XII; elective in XIV).

308. *Forage Crops.* (2-2).

This course includes a detailed study of the problems of forage production. It is given in accordance with the following outline: A general consideration of grasses and legumes as forage producers; the preservation of forage; the choice of forage crops; forage crop seeds as regards genuineness, purity, viability, adulterations, source, and seeding practice; permanent and temporary meadows; permanent and temporary pastures; a detailed study of the important hay and pasture crops adapted to southern agriculture.

Text: *Forage Crops*, Piper.

The practice includes a field and laboratory study of the various forage crops, and a laboratory study of forage crop seeds as regards all points that determine value.

(Required in I, XII; elective in XIV).

305. *Genetics.* (2-2).

This course comprises a fundamental study of the resemblances and differences in individuals related by descent, to the end that these relationships may be accounted for.

The important divisions of the work as presented are as follows: variation, including a statistical study of variation; the various phases of Mendelism, including the physical basis of Mendelism, independent Mendelian inheritance, linkage relations in Mendelism, the nature and expression of Mendelian factors, allelomorphic relationships in Mendelism; inheritance of sex and related phenomena; species hybridization; pure lines; mutations.

Text: *Genetics in Relation to Agriculture*, Babcock and Clausen.

In practice the student makes such studies in the laboratory, greenhouse and field as will give him first-hand acquaintance with the phenomena of variation and heredity.

Prerequisite: Biology 101, 102, 201, 202.

(Required in I, groups 4, 5, 7, 9).

306. *Plant Breeding.* (2-2).

This course deals with the various methods applicable to the improvement of our common field, forage, and horticultural crops. These methods are considered primarily from the standpoint of their technique and relative value.

In the greenhouse and field laboratory, practice in hybridizing field, forage and horticultural crops, and also in making field selections is given.

Prerequisite: Agronomy 305.

(Required in I, group 4; elective in group 9).

312. *Genetics.* (2-2).

A continuation of course 305.
(Elective).

405. *Grain Grading.* (1-4).

This course is designed for students who desire to become licensed grain inspectors, or who expect to engage in the grain business from the standpoint of production or marketing. Detailed instruction is given in the matter of grading grains according to the Federal standards established by the recent Grain Standards Act. In the theory the work deals largely with the provisions of the United States Grain Standards Act as regards its value in foreign, interstate, intrastate and local trade, the organization to carry out the provisions of the act, and the bases upon which the grades are established. The practice work is devoted entirely to the commercial grading of wheat, corn (both in the ear and shelled), oats, rice, and the grain sorghums (both in the head and the threshed grain).

(Elective in I, group 4).

406. *Soil Mapping.* (0-3).

In this course special consideration is given to the methods employed in classifying soils, and the benefit derived from soil survey work.

The students make a field study of the various soil types found in the surrounding locality. This area is surveyed and mapped according to the methods employed by the Bureau of Soils of the United States Department of Agriculture. In this work the student is taught the use of the plane table and map making.

Prerequisite: Agronomy 301.

(Elective in I, groups 1, 4).

407. *The Principles of Dry Farming.* (3-0).

This course deals specifically with the accepted principles of soil management and crop production in regions of limited rainfall.

(Elective in I, group 4).

410. *Soil Fertility.* (2-2).

A special study of the various fertility factors and the influence of different methods of soil treatment and management upon these factors. The student will make a detailed study of soils taken from especially selected experimental plots, and if possible from the student's home farm. Laboratory fee, \$1.00.

Prerequisite: Agronomy 301.

(Required in I, group 4).

412. *The Origin, Classification and Breeding of Cotton.* (2-2).

The work of this course falls into three divisions, as follows:

(1) A study of the known species of cotton from the standpoint of our present knowledge of their origin and classification;

(2) The characteristics and adaptation of the more important varieties of cotton;

(3) Inheritance studies in cotton.

Prerequisite: Agronomy 305.

(Elective in I, group 4).

FOR GRADUATES.

501, 502. *Advanced Farm Crops.* (3-4). *Major.*

This course comprises an advanced study of field crop production and breeding, most attention being given to the recent developments in the field of plant breeding. The student takes up first a study of the principles of genetics. This is followed by a rather comprehensive study of the recent literature of field crop breeding and crop production. The course of study is so directed as to cover as thoroughly as possible the results of the more recent and noteworthy investigations relative to the various phases of crop production and breeding. A thesis, based upon original investigation, is required as part of this course.

501a, 502a. *Advanced Farm Crops.* (2-4). *Minor.*

A modification of course 501, 502.

503, 504. *Advanced Genetics.* (3-4). *Major.*

This course includes a specialized study of the more important principles of inheritance. Plant and animal material is provided with which the student may study at first hand the inheritance of those characters in which he is particularly interested.

503a, 504a. *Advanced Genetics.* (2-4). *Minor.*

A modification of course 503, 504.

505, 506. *Advanced Soils.* (3-4). *Major.*

This course consists of two parts: (1) a concise account of our present knowledge of the soil as a medium for plant life; (2) a detailed study of the more recent and noteworthy investigations pertaining to soils and soil fertility. Free use is made of such publications as "Soil Conditions and Plant Growth," by E. J. Russell; "Soil Science," "The Journal of Agricultural Research," and "The Journal of American Society of Agronomy." A thesis, based upon original investigation, is required as a part of this course.

505a, 506a. *Advanced Soils.* (2-4). *Minor.*

A modification of course 505, 506.

FOR STUDENTS IN SHORT COURSES.

25. *Soils.* (3-2).

This is an elementary study of the origin, structure, texture, and crop adaptations of agricultural soils. Soil fertility and its maintenance;

manures, fertilizers, cover crops, fallowing, fall and spring plowing, crop rotations, diversification, and the renovation of worn-out soils receive attention in their proper order.

Text: *Productive Soils*, Weir.

Laboratory and field studies on the water holding capacity of soils, capillarity, the influence of organic matter on the physical properties of soils, lime and its effects on soils, constitute a part of the course. Laboratory fee, 50 cents.

(Required in C, M).

30. *Elementary Crop Production.* (3-2).

This course consists of an elementary study of the leading field and forage crops, special emphasis being placed on those crops primarily adapted to southern agriculture.

Text: *Productive Farm Crops*, Montgomery.

The practice consists of a field and laboratory study of farm crops, noting particularly those points that constitute ideal seed plants. When opportunity permits, the improved practices involved in crop production are studied in the field.

(Required in C, M).

55. *Elementary Plant Breeding.* (2-2).

This course includes a study of the elementary principles of inheritance and their application to the improvement of farm crops.

(Elective in C).

DEPARTMENT OF ANIMAL HUSBANDRY.

PROFESSOR TEMPLETON, PROFESSORS STANGEL, WILLIAMS, ASSOCIATE PROFESSORS CONWAY, BUCHANAN, MCQUILLEN, ASSISTANT PROFESSOR REGENBRECHT, MR. WALSER, MR. KOEHLER.

The courses in the Department of Animal Husbandry may be grouped under the four main heads:

- (1) The Judging of Live Stock.
- (2) The Breeding of Live Stock.
- (3) The Feeding of Live Stock.
- (4) The Management of Live Stock.

The courses are as follows:

101. *Judging Market Types of Beef Cattle and Sheep.* (0-4).

The lectures are explanatory of the various classes and grades of beef cattle and sheep recognized in the leading stock markets. The points of these and their value to the stockman, the butcher and the consumer are fully discussed. The practice embraces a thorough training in the scoring of fat cattle and fat sheep; supplemented by the study of dressed

beef carcasses as far as possible. Comparative judging constitutes an important part of the work.

Text: Types and Market Classes of Live Stock, Vaughn.
(Required in I, XIV, C).

102. Judging Market Types of Horses and Swine. (0-4).

The classes and grades of horses and swine recognized in the leading markets are discussed fully. The distinction of classes, and their importance, is made clear by the further use of the score card. Comparative judging is also an important factor in this course.

Text: Types and Market Classes of Live Stock, Vaughn.
(Required in I, XIV, C).

103. Live Stock Production (Beef Cattle and Sheep). (2-4).

A general course briefly covering the various phases of beef cattle and sheep production, including judging, breeding, care, and management. This course is especially designed to meet the needs of students taking Agricultural Education.

Text: Types and Market Classes of Live Stock, Vaughn.
(Required in XII).

104. Live Stock Production (Hogs and Horses). (2-4).

This is a continuation of course 102, covering hogs and horses.
(Required in XII).

106. Farm Poultry. (2-2).

Same as course 201.
(Required in C).

201. Farm Poultry. (2-2).

This is a general course on farm poultry and treats of the breeds and types of poultry; the principles of breeding and mating of fowls; incubation and brooding; feeding for growth and egg production; winter and summer management; housing and hygiene; sanitation; disease; parasites and their treatment; preparing poultry for market; marketing. It deals with the practical application of these principles to general farm conditions.

Text: Poultry Production, Lippincott.

The practice work consists of the study of breeds and types, incubators and brooders, housing, judging of fancy and utility poultry, candling and grading of eggs and poultry products, killing and dressing poultry.

(Required in XII; elective in I, C).

202. Judging Breed Types of Cattle, Horses, Sheep and Swine. (2-2).

The lectures in this course treat of the origin, history, characteristics and adaptability of the various breeds of live stock. As far as the equipment in live stock will permit, the student is shown by means of

representative animals the best types of the breeds of cattle, horses, sheep and swine.

Text: Types and Breeds of Farm Animals, Plumb.

The score cards of the different breed associations are used in determining the merits of the animals, and these are further explained in the lectures. An important part of the practice consists of comparative judging similar to that of the show ring.

Prerequisite: Animal Husbandry 101, 102.

(Elective in I).

204. *Judging Market and Breed Types of Cattle, Horses, Sheep and Swine.* (2-4).

This course is offered to students in Veterinary Medicine. The work in both theory and practice is similar to that presented in courses 101, 102 and 202, but less extensive on account of the shorter time given to it.

Text: Judging Farm Animals, Plumb.

(Required in XI).

211, 212. *Market Types.* (0-4).

Same as course 101, 102.

(Required in XV).

302. *Animal Breeding.* (2-2).

A study of the principles of animal improvement which form the basis of proper selection and mating for the production of pure bred live stock and market animals. The course includes a discussion of the subjects of reproduction, variation, heredity, selection, and the various methods of breeding, which include line breeding, inbreeding, crossing, grading, and other subjects connected with the breeding and improvement of farm animals.

Text: The Breeding of Animals, Mumford.

Practice consists largely of a study of the results obtained with the various breeds comprising the College herds. Training is given in the use of herd books, which involves the tabulation of pedigrees of representatives of the different breeds.

Prerequisite: Biology 301, Agronomy 305.

(Required in I, groups 5, 7; XI).

303. *Animal Nutrition.* (3-2).

This subject involves a study of the fundamental principles of live stock feeding, including the composition and digestibility of feeding stuffs, the disposition made of the different feed constituents by the animal organisms, and, finally, the methods of calculating rations for the various classes of farm animals, cattle, horses, sheep, and swine. Students are required to use a text-book and that is supplemented by lectures.

Text: Feeds and Feeding, Henry and Morrison. Lectures.

The practice consists chiefly in calculating rations and in working out problems relating to the economic side of live stock feeding.

Prerequisite: Chemistry 206.

(Required in I, group 5).

403. *Advanced Judging.* (0-6).

The lectures of this course treat further of the most approved types of pure-bred animals and of those used for the common market.

Classes of the different kinds of live stock are selected as similar as possible to those which come together in the show rings of exhibitions and the work of competitive judging among the students is given much prominence.

405. *Herd Book Study.* (0-4).

The first part of the work consists of training in the intelligent use of herd books, involving practice in the tabulation and study of pedigrees of famous animals. This is followed by a study of the blood lines of the breed or breeds of live stock which the student intends to produce, in order to familiarize him with the best strains and individuals of the breed. Practice is also given in the necessary incidentals connected with the registration of animals, such as rules of entry, application for transfer, etc.

Prerequisite: Animal Husbandry 302.

406. *Beef Cattle Production.* (3-2).

This course comprises a study of the raising of beef cattle as a business, including the most important features of production and marketing. The best methods of producing beef under both stock farming and ranching conditions, together with the details of management in each case, are fully discussed. Special attention is given to the management of pure-bred herds and the keeping of herd records.

The practice consists of the actual work of handling beef cattle, in developing them, and in preparing them for show and sale.

Prerequisite: Animal Husbandry 302, 303.

409. *Animal Nutrition and Live Stock Feeding.* (3-2).

This is a combined course, involving the principles of animal nutrition and a study of the feeding of all classes of farm animals, cattle, horses, sheep, and swine. The subject of animal nutrition, the composition of available feeding stuffs, and the calculating of rations are treated fully.

Text: Feeds and Feeding, Abridged, Henry and Morrison.

The practice consists of calculating rations; studying the results of feeding tests conducted by this and other Experiment Stations; and studying practical feeding operations.

(Required in I, group 4; XI).

410. *Sheep and Wool Production.* (3-2).

The raising of sheep is studied in full detail, both under farm and range conditions. Special attention is given to the management of pure bred flocks and the keeping of records. The production of wool is taken up, including improved methods of marketing, market grades, and factors determining the value of wool.

The practice consists of the actual handling of the flock, including feeding, shearing, docking, trimming feet, blocking for show, etc.

Prerequisite: Animal Husbandry 302, 303.

1. *Poultry Breeding and Management.* (2-2).

This course involves a thorough study of the principles of poultry breeding, especially their application to the inheritance of egg production. A study of all poultry literature bearing on this subject occupies the first part of the course. Experiments dealing with certain phases of breeding are conducted during the course.

Prerequisite: Animal Husbandry 201.

Text: Poultry Breeding and Management, Dryden.

Course 411 is repeated in the second term.

412. *Swine Production.* (3-2).

A detailed study is made of the problems that confront the breeder and feeder of pure-bred and market hogs. The following items are considered: Review of hog situation, adaptation of breeds, breeding, feeding, dry lot and forage crops, housing, fencing, equipment, fitting for show, showing, sanitation and disease control, marketing, killing and curing products, keeping records.

The actual work of handling is done in the practice.

Prerequisite: Animal Husbandry 302, 303.

413. *Horse Production.* (3-2).

This course involves a more advanced study of market types and breeds of horses; a statistical study of the horse and mule industry; the breeding, feeding, and management of horses and mules. Special attention is given to the care of the stallion, brood mare, and foal. The work of horse registry associations and the influence of stallion laws are reviewed.

Practice consists of the actual handling of horses, including the training of colts, care and fitting of harness, fitting for sale and show, shipping, horseshoeing, and barn sanitation.

Prerequisite: Animal Husbandry 302, 303.

FOR GRADUATES.

501, 502. *Advanced Animal Nutrition.* (3-4). Major.

This course involves a study of the more recent investigations in animal nutrition: methods of investigation as well as results are given

consideration. Experiment Station literature, scientific journals, and advanced text-books on nutrition are reviewed by the student, who is required to attend class three hours weekly for lecture, recitation, or conference.

501a, 502a. Advanced Animal Nutrition. (2-4).

A modification of course 501, 502.

FOR STUDENTS IN SHORT COURSES.

52. The Breeding of Live Stock and the Study of Pedigrees. (2-2).

The lectures in this course treat of the principles of breeding and the methods used in the practice of breeding horses, cattle, sheep and swine,—pure-bred animals, as well as those for the common market.

Text: *The Breeding of Animals*, Mumford.

The practice consists principally of the study of pedigrees. Students are required to trace out the blood lines of some of the most noted animals of each breed of live stock in order that they may obtain a knowledge of the combinations that have produced the best results.

(Elective in C).

55. Live Stock Feeding. (2-2).

This course embraces a study of the feeding of all classes of farm animals, cattle, horses, sheep and swine. The subject of animal nutrition, the composition of available feeding stuffs and the calculating of rations, are treated fully.

Text: *Feeds and Feeding*, Abridged, Henry and Morrison.

The practice consists largely of calculating rations for different classes of farm animals, special attention being given to the study of Texas grown feeding stuffs.

(Elective in C).

58. Live Stock Management. (2-2).

The raising of horses, cattle, sheep and swine is discussed in full detail, covering all features of management in production and marketing. Special attention is given to the management of pure-bred herds and flocks and to the keeping of private herds and record books.

The practice in live stock management consists of actual work in preparing different classes of stock for show and sale. The student is given instruction in trimming and shearing sheep, washing and curling the coats of cattle, polishing horns and hoofs, etc. The work on horses consists of grooming, fitting harness, and decorating manes and tails.

Prerequisite: *Animal Husbandry 55.*

(Elective in C).

DEPARTMENT OF ARCHITECTURE.

PROFESSOR LAROCHE, PROFESSOR KELLOGG, ASSOCIATE PROFESSOR
JUNE.

101. Architectural Drawing. (0-3).

A series of plates given primarily as exercises in draftsmanship, but also with the intention of introducing simple architectural details. The correlation of plan, elevation and section is thoroughly studied.

(Required in IX).

102. Elements. (0-6).

The study of architectural form through the classic orders of architecture, which are studied as examples of proportion rather than as definite mathematical systems. In this course an application of the theory of shades and shadows and perspective is made to the forms studied, and the subject of wash drawings introduced.

(Required in IX).

104. Shadows and Perspective. (2-0).

The principles of descriptive geometry which underlie the methods of casting shades and shadows are reviewed and firmly fixed in the student's mind. First, these are applied in finding shades and shadows on simple geometrical forms; then their application to forms of more difficult architectural character are taken up. The second half of the term is given to a study of the most approved methods of drawing in perspective projection. This course is co-ordinated with course 102.

(Required in IX).

201, 202. Design (Elementary). (0-10).

A series of simple rendered problems involving the use of the orders and the study of composition; library research.

(Required in IX, group 1, both terms; group 2, first term).

207, 208. History of Architecture. (2-0).

Egyptian, Western, Asiatic, Greek, Roman, Early Christian, Byzantine, Romanesque, and Gothic styles.

Written quizzes; tracings; research; lectures.

Text: History of Architecture, Kimball and Edgell.

(Required in IX, groups 1 and 2).

209. Principles of Design. (1-0).

Lectures on composition as applied to Architectural Design. The preliminary sketch; methods of study and presentation. Library assignments and reports.

(Required in IX, group 1).

210. Masonry and Carpentry. (2-0).

A brief study of the characteristics of the more important materials used in building construction; with special reference to methods and details of construction. Drawings and reports.

(Required in IX, groups 1 and 2).

217. Elements of Mechanics. (3-0).

The fundamental principles of mechanics are studied with particular emphasis placed on analytical statics. Numerous problems are solved to bring out the practical application of the theory taught.

Text as assigned.

Prerequisite: Mathematics 101, 102 and 103.

(Required in IX, group 1).

218. Mechanics of Materials. (3-0).

Strength of materials; direct stresses; flexural stresses; secondary stresses. Beams; columns; struts; riveted joints. The practical problems given are taken from actual constructional conditions, whenever possible.

Text as assigned.

Prerequisite: Architecture 217.

(Required in IX, group 1).

301, 302. Design (Intermediate). (0-15).

A series of major and sketch problems in design, composition and planning throughout the year. The student is taught to think out his own solution to various given conditions. Under the instructor's criticisms his work is logically developed and attractively presented. Library research.

(Required in IX, group 1).

309. History of Architecture. (2-0).

Renaissance and modern architectural styles.

Written quizzes; tracings; research; lectures.

Text: History of Architecture, Kimball and Edgell.

(Required in IX, groups 1 and 2).

311, 312. Design. (0-10, 0-12).

Similar to courses 301 and 302, but with application to buildings of a more utilitarian nature such as power plants, factories and store houses.

(Required in IX, group 1).

316. Mechanical Equipment. (3-0).

Water supply, sanitation and plumbing. Heating and ventilation. Wiring and illumination. The fundamentals of these subjects are covered by means of lectures and assigned problems.

Text as assigned.

(Required in IX, groups 1 and 2).

317. *Framed Construction.* (2-3).

The design of wood and steel frames as used in building construction. Graphics and roof truss design are emphasized.

Text as assigned.

Prerequisite: Architecture 217 and 218.

(Required in IX, group 1).

318. *Reinforced Concrete.* (2-3).

Theory of reinforced concrete, and the design of columns, girders, beams and slabs.

Text as assigned.

Prerequisite: Architecture 217 and 218.

(Required in IX, group 1).

401, 402. *Design (Advanced).* (0-18, 0-20).

This course is a continuation of the work in Agricultural Design with more advanced problems in planning, composition and presentation.

(Required in IX, group 1).

406. *Professional Practice.* (2-0).

A series of lectures on the law of contracts; specifications; professional practice; ethics and professional and inter-professional relationships.

(Required in IX, groups 1 and 2).

407. *History of Art.* (2-0).

The history of painting, sculpture and architectural ornament. The aim of this course is to give an appreciation of the various schools of painting and sculpture, and an analysis of historic styles of decoration as applied to architecture.

(Required in IX, groups 1 and 2).

411, 412. *Structural Design.* (0-14).

A set of working structural drawings (with schedules and calculations) is made of a representative building designed by the student. Wood and steel framing and foundations being especially emphasized.

Text: Building Handbooks.

(Required in IX, group 2).

414. *Modern Architecture.* (1-0).

An analysis of modern buildings in respect to the influences of historic styles; also in respect to materials and methods of construction used. The requirements of special types of buildings such as schools, libraries, theaters, hospitals, etc., are studied. Lectures and reports.

(Required in IX, groups 1, 2).

DEPARTMENT OF BIOLOGY.

PROFESSOR BALL, ASSOCIATE PROFESSORS CAHN, PRATT, ASSISTANT
PROFESSORS HELFF, H. BURT, MR. ENGLISH.

BOTANY.

101, 102. General Botany. (2-4).

The aim of this course is to provide the student who looks forward to entering some field of work in agriculture with an accurate and thorough knowledge of living plants. The point kept steadily in view is, therefore, physiologic rather than anatomic. The first term begins with an outline of the external and internal form and structure necessary to the more extended study of life processes of plants. In the second term, types of various subdivisions of the plant kingdom are used to illustrate the great fundamental principles of development and adaptation, and to serve as a foundation for later work in classification.

The plan of the laboratory work is based on the inductive principle; the student is trained to acquire facts of development, structure and function by direct observation. Each student is required to keep a notebook in which he records by drawings and notes the results of his work.

Text: College Botany, Martin.

Laboratory fee, 50 cents each term.

(Required in I, XI, XII, XIV).

103, 104. General Botany. (2-4).

This course differs from the preceding in being more thorough and advanced.

Text: Botany of the Living Plant, Bower.

(Required in X).

Laboratory fee, \$1.00 each term.

303, 304. Plant Physiology. (2-4).

An advanced course in physiology is here offered in which the functions of respiration, assimilation and nutrition receive especial attention. The course is designed for those who wish to pursue work of higher character in the field of general agricultural botany and at the same time to give, in the practical work, an introduction to the methods of research.

Text: Physiology of Plants, Green.

Laboratory Manual: Practical Physiology of Plants, Darwin and Acton.

Prerequisite: Biology 103, 104.

(Elective in X).

Laboratory fee, \$1.00 each term.

316. Plant Diseases. (2-4).

This course begins with a study of the biology and classification of fungi with special reference to pathogenic forms. Types of the more

important plant diseases occurring in Texas are selected for study and the student is trained to investigate and identify the cause of the trouble and is shown appropriate corrective measures. Plant diseases due to other causes receive attention within the limits of time and material.

In the laboratory, the student studies the form, structure, and biology of selected fungi and learns routine methods of cultivation and identification. Diseased plants are placed before him for individual study and he is instructed in the diagnosis of each disease.

Laboratory fee, \$1.00.

Text: Fungus Diseases of Plants, Duggar.

Prerequisite: Biology 101, 102.

(Elective in I).

403, 404. *Plant Pathology.* (2-4).

An introduction to systematic mycology in the first term, which is then followed by a study of the more important diseases of plants.

Text: Fungi Which Cause Plant Diseases, Stevens.

(Elective in X).

Prerequisite: Biology 103, 104, 311, 312.

Laboratory fee, \$1.00 each term.

ZOOLOGY.

203, 204. *General Zoology.* (2-4).

A course dealing with the fundamental principles of classification, morphology and physiology of the various phyla of the animal kingdom, together with a discussion of life-histories and habits of representative species. In the laboratory, type specimens are dissected.

Text: College Zoology, Hegner.

(Elective in X).

Laboratory fee, \$1.00 each term.

207. *General Zoology.* (2-4).

The essential aims and plan outlined in the work in botany are continued in this course. Especial attention is given to forms of economic importance. Types of the various great groups of animals are considered as illustrating origin, development and distribution. Careful dissection and study of type forms, with notes and drawings are required in the laboratory work.

Laboratory fee, \$1.00.

Text: General Zoology, Pearse.

(Required in I, XII).

208. *General Zoology.* (2-4).

Same as course 207.

(Required in XI).

Laboratory fee, \$1.00.

317, 318. *Comparative Vertebrate Zoology.* (2-4).

A detailed study of the anatomy of type chordates is undertaken from a comparative viewpoint. The lectures deal with the progressive development and evolution of the organs and organ systems, while in the laboratory the anatomy of the shark, fish, amphibian and mammal are carefully studied.

Text: *Comparative Anatomy of Vertebrates*, Kingsley.

Laboratory Manual for *Comparative Vertebrate Anatomy*, Hyman.

Prerequisites: Biology 203, 204.

(Elective in X).

Laboratory fee, \$1.00 each term.

419, 420. *General Embryology.* (2-4).

A course dealing with the development of the frog, pig and chick. In the laboratory a detailed study is made of both preserved and living material.

Text: *Text-book of Embryology*, Prentiss.

Prerequisite: Biology 203, 204, 317, 318.

(Elective in X).

Laboratory fee, \$1.00 each term.

BACTERIOLOGY.

206. *Introductory Bacteriology.* (1-4).

This course is designed as an introduction to a more extended study of the nature and relations of bacteria. The laboratory work comprises, in part, the preparation of culture media; of pure cultures; staining and microscopic technique; methods of identification, etc.

Laboratory Manual: *Laboratory Methods for Beginners in Bacteriology*.

Laboratory fee, \$1.50.

Text: *Bacteriology*, Buchanan.

Prerequisite: Biology 101, 102.

(Required in I, XI).

305. *Soil Bacteriology.* (1-4).

For students desiring more specialized and extended work than offered in 206.

Text: To be assigned.

Prerequisite: Biology 206.

(Elective in I).

Laboratory fee, \$1.50.

309, 310. *General Bacteriology.* (2-4).

In this course, the general nature and relations of bacteria, as exhibited in the study of selected types, will be considered.

In the laboratory, routine methods of isolation, preparation, and

study of pure cultures; technical microscopy of bacteria, etc., occupy the time allotted.

Text: General Bacteriology, Jordan.

Laboratory Manual: A Manual of Bacteriology, Reed.

Laboratory fee, \$1.00 each term.

(Elective in X).

409, 410. *Advanced Bacteriology*. (2-4).

This course is designed for students who elect special work in bacteriology and will be adapted to the needs of the groups making the selection.

Laboratory fee, \$1.00 each term.

Prerequisite: Biology 103, 104; 309, 310.

(Elective in X).

418. *Water Bacteriology*. (2-4).

The relations of bacteria and similar organisms to water, and water supplies, sewage and sewage disposal will be thoroughly considered.

The laboratory work consists of preparation of culture media; qualitative and quantitative analysis of water, sewage and sewage effluents.

Text: To be selected.

Laboratory fee, \$1.50.

(Required in IV, group 2).

FOR GRADUATES.

501, 502. *Vegetable Morphology*. (3-4). *Major*.

The life histories of various types of plants beginning with the lower forms and extending throughout the Angiosperms are studied with special reference to structure and reproduction. Special attention is given to the origin and development of sex, the vascular system, the flower, etc., and to the alternation of generations.

The laboratory work includes among other things training in the preparation of permanent microscopic slides.

No text is used, but numerous references are given to publications available to the students.

Laboratory fee, \$5.00 each term.

501a, 502a. *Vegetable Morphology*. (2-4). *Minor*.

A modification of course 501, 502.

Laboratory fee, \$5.00 each term.

503, 504. *Advanced Vertebrate Zoology*. (3-4). *Major*.

An advanced course in zoology. The theory deals with the comparative anatomy of vertebrate types. The origin, development and evolution of the organs and organ systems, together with the anatomical evidence of evolution are emphasized. Laboratory work; detailed dissection of selected vertebrate types.

Text: Comparative Anatomy of Vertebrates, Kingsley; and Text-book of Zoology, Parker and Haswell, Vol. 2.

Laboratory fee, \$5.00 each term.

503a, 504a. *Advanced Vertebrate Zoology.* (2-4). *Minor.*

A modification of course 503, 504.

Text: Vertebrate Zoology, Newman.

Laboratory fee, \$5.00 each term.

505, 506. *Advanced Bacteriology.* (3-4). *Major.*

Advanced methods of bacteriological analysis of water; of milk and foods; of sewage.

Texts: Monographs on the special topics.

Laboratory fee, \$5.00 each term.

505a, 506a. *Advanced Bacteriology.* (2-4). *Minor.*

A modification of course 505, 506.

Laboratory fee, \$5.00 each term.

DEPARTMENT OF CHEMISTRY AND CHEMICAL ENGINEERING.

PROFESSOR HEDGES, PROFESSOR THORNTON, ASSOCIATE PROFESSORS BRAYTON, BURCHARD, STONE, FISH, ASSISTANT PROFESSOR MOORE, MR. SCHAEER, MR. SPIETH, MR. KOENIG, MR. BRYANT, MR. B. C. JONES, MR. OLIPHINT, MR. HARTER.

101, 102. *General Inorganic Chemistry.* (3-3).

In this course the foundation principles of all chemical activity are fully discussed and demonstrated. The chemical elements and their compounds are then taken up separately and systematically. Industrial applications of the more important chemical processes are briefly described, and organic chemistry is touched upon. This course must precede all other chemical studies. An elementary course in physics should precede or accompany this course.

Text: General Chemistry, McPherson and Henderson.

General laboratory work, duplication of lecture experiments and simple tests of technical importance.

Laboratory fee, \$3.50 each term.

(Required in all four-year courses except X).

103, 104. *Inorganic Chemistry.* (3-4).

A modification of course 101, 102.

Laboratory fee, \$3.50.

(Required in X).

201, 202. Organic Chemistry. (3-4).

Same as course 301, 302.

Laboratory fee, \$6.00 each term.

(Elective in X).

205. Qualitative Analysis. (2-8).

This course includes both the theory and practice of fundamental analytical operations and is designed to enable the student to make a rapid and accurate analysis of substances of average complexity, and to understand the steps by which his results are obtained. In the theory the principles upon which the laboratory work is based are explained and discussed, and the student's knowledge rigorously tested by oral and written exercises.

The laboratory work consists of a study of the properties and reactions of the more common basic and acidic radicals, their separation and identification from mixtures, the methods of getting solids into solution for analysis and the analysis of unknown substances. The number of substances analyzed varies with their nature and complexity.

Text: Qualitative Analysis, Steiglitz, Part I, and Noyes.

Laboratory fee, \$6.00.

Prerequisite: Chemistry 101, 102.

(Required in VIII).

206. Organic Chemistry. (3-2).

The subject is treated primarily as a pure science. An effort is made to select for illustrations such compounds as are of interest to the student of agriculture.

Text: Organic Chemistry, Moore.

In the laboratory a study is made of the properties and typical reactions of the compounds discussed in the lectures.

Laboratory fee, \$2.50.

Prerequisite: Chemistry 101, 102.

(Required in I, VI, XI).

207. Quantitative Analysis. (2-3).

This course is designed to meet the requirements of mechanical and textile engineering students, and is preparatory to advanced courses in those departments. The laboratory exercises are explained in detail, general deductions drawn, and the student's knowledge of the subject tested by short oral and written exercises. A considerable portion of the class-room time is devoted to chemical calculations involved in the practice.

The laboratory work consists of a number of carefully selected experiments in quantitative analysis designed to typify operations of general application.

Laboratory fee, \$3.00.

Prerequisite: Chemistry 101, 102.

(Required in III, VI).

208. Technical Analysis. (1-4).

This course is designed to give the student an insight into the methods employed in the analysis of materials connected with his profession and the application of the results obtained to practical problems. The work in the laboratory is discussed and explained, and its application to engineering problems emphasized.

In the laboratory fuels, steels, cements, waters for industrial purposes, and industrial products commonly met with, are analyzed by rapid technical methods.

Laboratory fee, \$3.00.

Prerequisite: Chemistry 207.

(Required in III, VI).

301, 302. Organic Chemistry. (3-4).

The lectures and recitations serve as an introduction to the chemistry of the compounds of carbon. A study is made of the general principles, and attention is called to their application to various industrial processes.

The laboratory work serves as a basis for the course. The student here familiarizes himself with the reactions, properties and relations of typical organic compounds.

Laboratory fee, \$6.00 each term.

Text: Organic Chemistry, Norris.

Prerequisite: Chemistry 101, 102.

(Required in VIII).

305. Organic Chemistry. (3-2).

Same as 206.

Laboratory fee, \$2.50.

(Required in VI).

308. Dyeing. (1-4).

This course consists of a study of the physical and chemical properties of textile fibers, dyes, dyestuffs, and mordants, together with the principles and appliances involved in the commercial coloring of textiles, especially cotton and woolen goods.

Most of the principles discussed in the theory are tested in the laboratory, with especial attention to the production of dyeing to meet particular commercial requirements.

Laboratory fee, \$2.00.

Prerequisite: Chemistry 305.

(Required in VI).

309. Agricultural Chemistry. (3-3).

This is a study of the fundamental chemical principles of agriculture, and in addition to giving the student a grasp of the application of chemistry, it helps to understand the chemical terms used in Experi-

ment Station literature. The chemistry of plant substances, soils, irrigation water, fertilizers, insecticides, and fungicides is studied.

The laboratory work serves to familiarize the student with the composition and behavior in the laboratory of many materials important in agriculture. It consists of the chemical analysis of feeds, soils, fertilizers, insecticides and fungicides.

Text: Chemistry of Agriculture, Stoddard.

Laboratory Manual of Agricultural Chemistry, Hedges and Bryant.

Laboratory fee, \$3.00.

Prerequisite: Chemistry 206.

(Required in I, XII).

313. *Qualitative Analysis.* (2-8).

Same as course 205.

Laboratory fee, \$6.00.

(Elective in X).

314. *Advanced Agricultural Chemistry.* (2-6).

Studies are made of selected topics concerning the chemistry of soils, plants, or animal nutrition, in such a way as to give the student a knowledge of the methods used in agricultural investigation, and to aid him to develop habits of independent thought.

The student is required to take up some special problem in agricultural chemistry or to work on the chemical phase of some problem simultaneously pursued in some other department.

Laboratory fee, \$4.00.

Prerequisite: Chemistry 309.

(Required in I, group 1).

410. *Water Treatment.* (1-3).

This course is designed to impart a knowledge of the methods employed in the analysis of waters for industrial and potable purposes, of the interpretation of the results of such analyses, and of the methods employed in water purification. Attention is also directed to the nature and analysis of sewage, and its purification.

Laboratory fee, \$3.00.

Prerequisite: Chemistry 307.

(Elective in IV, group 2).

418. *Technical Analysis.* (1-4).

Same as course 208.

Laboratory fee, \$3.00.

(Required in I, group 3).

431. *Advanced Organic Chemistry.* (2-4).

This course is a continuation of Chemistry 301 and 302 in the study of more complex compounds, especially of those related to the industries.

Laboratory fee, \$5.00.

The laboratory experiments are chosen to correlate with the theory work.

(Elective).

438. *Seminar.* (1-0).

(Required in VIII).

FOR GRADUATES.

501, 502. *Advanced Agricultural Chemistry.* (3-4). *Major.*

Same as course 421, with more advanced work.

Laboratory fee, \$5.00 each term.

501a, 502a. *Advanced Agricultural Chemistry.* (2-4). *Minor.*

A modification of course 501, 502.

Laboratory fee, \$5.00 each term.

FOR STUDENTS IN SHORT COURSES.

51. *Practical Chemistry.* (3-2).

This course is intended to familiarize the student with chemistry and its relation to every-day affairs. The elementary principles of inorganic chemistry are first considered and then topics of practical interest are taken up. Some of the topics studied are: Fuels (solid, liquid, and gaseous), illuminants, air and ventilation, water purification and softening, extraction and properties of the non-ferrous metals, alloys, iron and steel, corrosion of metals, lime, cement, brick and pottery, glass, protective coatings, some carbon compounds, foods, etc.

The laboratory work comprises the preparation or testing of metals discussed in the class room.

Laboratory fee, \$2.00.

Text: *Chemistry of Common Things*, Brownlee, and other texts.

(Required in H).

54. *Dyeing.* (1-4).

Similar to course 308 but more elementary.

Laboratory fee, \$2.50.

Prerequisite: Chemistry 51.

(Required in H).

CHEMICAL ENGINEERING.

The foundation for the work in chemical engineering is laid in the courses in chemistry already described. Chemistry and chemical engineering cover such a broad field that in the senior year students are advised to specialize in some branch of technical analysis such as its application to the cotton seed oil industry, petroleum technology, problems of sanitation, or the chemical control of a cement plant. All the

work is supplemented by laboratory work. The chemical industries most highly developed in this State are inspected from time to time.

201. *Industrial Chemistry.* (3-0).

Same as Chemical Engineering 307.

(Required in XIII).

202. *Elementary Quantitative Analysis.* (2-8).

This course serves as an introduction to the methods of exact analysis, and is regarded as preliminary training for the more advanced courses. In the class room the practice and theory of the laboratory exercises are dealt with by lectures and recitations. Special attention is given to stoichiometry.

The laboratory work consists of a number of carefully selected experiments in quantitative analysis designed to typify operations of general application. The work is first gravimetric, then volumetric. In the early periods compounds of known composition and purity are analyzed, but later substances of industrial significance, whose percentage composition is known only to the instructor, are undertaken. Near the close of the term an analysis is made of a carbonate or silicate rock for the commonly determined constituents.

Texts: Notes on Quantitative Chemical Analysis, Foulk; Calculations of Analytical Chemistry, Miller.

Laboratory fee, \$6.00.

Prerequisite: Chemistry 205.

(Required in VIII).

208. *Metallurgy.* (2-0).

Same as Chemical Engineering 408.

(Required in XIII).

301, 302. *Technical Analysis.* (2-9, 2-6).

The theory consists of lectures, recitations and conferences dealing with technical methods of analysis, both rapid and exact, effort being made to thoroughly familiarize the student with the principles involved. Before beginning an analysis the student is required to consult current literature and standard books of reference and present a written outline for criticism and suggestion.

The laboratory work comprises the analysis of limestone, fuels, lubricating oils, gas, boiler water, iron and steel, alloys, ores, paint, soap, sugar, asphalt and other materials of engineering and industrial importance.

Texts: Quantitative Analysis, Mahan; Engineering Chemistry, Stillman.

Laboratory fee, \$6.00 each term.

Prerequisite: Chemical Engineering 202.

(Required in VIII).

303. *Physical Chemistry.* (3-4).

Same as Chemical Engineering 411.

Laboratory fee, \$5.00.

(Required in I, group 1).

307. *Industrial Chemistry.* (3-0).

This is an introductory course, covering the principal applications of chemical process to commercial products, mostly organic in nature, such as gas manufacture, petroleum products, soaps, the starch and sugar industries, and the manufacture of paper, leather, and explosives. The manufacture of fertilizers, cement and ceramics is also considered.

Text: *Industrial Chemistry*, Benson.

Prerequisite: Chemistry 101, 102.

(Required in III).

312. *Elementary Quantitative Analysis.* (2-8).

Same as Chemical Engineering 202.

Laboratory fee, \$6.00.

(Elective in X).

408. *Metallurgy of Iron and Steel.* (2-0).

In this course the metallurgy of iron and the manufacture of steel are considered in detail, especial attention being given to the nature and location of valuable iron ore deposits, together with suitable fluxes; to the nature and availability of proper fuels, together with the furnaces used; to the constitution of the resulting pig iron and the manufacture of steel therefrom; and finally to the chemistry of the different kinds of steel and their adaptability in engineering practice. Lectures and recitations.

Text: *The Metallurgy of Iron and Steel*, Stoughton.

Prerequisite: Chemistry 101, 102.

(Required in III).

411. *Physical Chemistry.* (3-4).

This course presents physical explanations of chemical and allied phenomena, together with a mathematical exposition of the laws involved. Some of the subjects thus developed are the atomic theory, the periodic law, solubility, fusion, vaporization, the phase rule, dissociation in solution, chemical equilibrium, and relative chemical activity. It leads up to the consideration of the best research of today. Most of the theoretical conclusions deduced in the class room are confirmed in the laboratory. Lectures and recitations.

The laboratory work consists of the calibration of apparatus, determination of molecular weights, heats, of reaction, rate of reaction, law of mass action and other related topics. During the second term most of the experiments deal with electrical phenomena. A few experiments

illustrating electro-chemical processes of commercial importance are performed.

Laboratory fee, \$5.00.

Prerequisite: Chemistry 301, 302.

(Required in I, group 1; VIII; elective in X).

414. *Sanitary Chemistry.* (3-4).

The course deals with the sanitary examination of food, milk, and milk products, and the sanitary analysis of water, including water treatment methods. Methods of purification of water, as the use of sand filters, coagulants, and algicides, are explained. Sources of pollution of water and milk supplies and their relation to public health are discussed. Problems common to the sanitary chemist and engineer are also considered.

Laboratory fee, \$5.00.

Prerequisite: Chemistry 206 or 301, 302.

(Required in VIII; elective in X).

415. *Industrial Chemistry.* (3-4).

The theory consists of lectures and conferences dealing with technical processes and their application to the industries and the construction and operation of industrial chemical plants. As the work of the student diverges individual conferences are arranged with each during which his particular problems are discussed. Reference is made to the library and current technical literature.

Laboratory fee, \$6.00.

Prerequisite: Chemical Engineering 302.

(Required in VIII).

416. *Chemical Technology.* (3-8).

This course deals with the application of chemical theories and laws to industrial processes, organic chemical processes being emphasized, especially those dealing with the refining of petroleum, cottonseed oil, and sugar.

Text: Industrial Chemistry, Thorp.

Laboratory fee, \$5.00.

Prerequisite: Chemical Engineering 413.

(Required in VIII).

452. *Chemical Summary.* (3-0).

This course is designed to summarize all the work given in the course in Chemical Engineering and to co-ordinate the different subjects throughout the four years' work. Work is given by means of lectures, recitations and written tests.

DEPARTMENT OF CIVIL ENGINEERING.

PROFESSOR NAGLE, PROFESSORS RICHEY, EMMONS, MARBURGER, ASSOCIATE PROFESSORS BIRD, MUNSON; ASSISTANT PROFESSOR MCNEW, MR. BRADEN, MR. DOREMUS.

201. Plane Surveying. (3-5).

Chaining; the adjustment, use and care of compass, transit, level, plane table and hand instruments; measurement of angles; land surveys and computations; stadia, topographic, city and general surveying; leveling; observations for true meridian and latitude; plotting results of surveys.

Stress is laid upon the practical side of surveying, the importance of care and precision both in the field and the class room, and the necessity for understanding the principles underlying each step of the work.

Additional problems under the same working conditions met by the practicing surveyor are assigned in course 300 during the summer.

Texts: Principles and Practice of Surveying, Vols. 1 and 2, Breed and Hosmer; Manual of Surveying, R. E. Davis.

Laboratory fee, 75 cents.

Prerequisite: Mathematics 103.

(Required in IV).

202. Railroad Engineering. (2-3).

The theory and practice of simple and compound curves are taught in both class room and field and such problems are given as will illustrate the application of the theory to actual working conditions.

Text: Field Manual for Railroad Engineers, Nagle.

Problems in simple and compound curves are assigned, the notes calculated and the curves "run out" in the field.

Prerequisite: Civil Engineering 201.

Laboratory fee, 75 cents.

(Required in IV).

204. Analytical Mechanics. (4-0).

A study of the fundamental principles of mechanics, with numerous problems showing their application in engineering. Both kinetics and statics are considered, but especial emphasis is put upon the applications of the principles of static equilibrium.

Text: Applied Mechanics, Poorman.

Prerequisite: Mathematics 203; to be accompanied by Mathematics 204.

(Required in IV, IX, group 2; XV).

206. Plane Surveying. (1-3).

A modification of course 201.

After covering the fundamental principles of surveying, special atten-

tion is given to the use of the transit and level in making layouts of building and machinery foundations, lining shafting, running profile surveys for pipe lines, etc.

Text: Surveying Manual, Pence and Ketchum.

Laboratory fee, 50 cents.

Prerequisite: Mathematics 103.

(Required in V, VI, XV).

300. Field Practice. Summer Following Sophomore Year; 3 Weeks.

This course includes the care, management and use of surveying instruments in making land, topographic and triangulation surveys, particular attention being paid to stadia and plane table methods.

Practical working conditions are approximated by requiring a full working day in the solutions of special problems in the several different surveys. Areas are computed, topography platted and maps made. The true meridian is determined by observations on the sun and Polaris. Each instrument man is required to become reasonably proficient in the use of the surveyor's compass, transit, level and plane table.

Reference text: Principles and Practices of Surveying, Vols. 1 and 2, Breed and Hosmer, together with additional notes by the instructors.

Laboratory fee, \$1.00.

(Required in IV, XV).

303. Railroad Engineering. (2-3).

A continuation of course 202, covering transition curves, frogs and switches, turnouts, vertical curves, earthwork, overhaul, estimates, etc.

The theory is demonstrated in the field by working out assigned problems and actually doing the field work necessary. Instruction in platting progress profiles, preparing preliminary, monthly, and final estimates, including the determination of overhaul, is given.

This practice, as well as that of course 202, is preliminary to more elaborate field work required in course 400, and railroad drafting in course 401.

Text: Field Manual for Railroad Engineers, Nagle.

Laboratory fee, 75 cents.

Prerequisite: Civil Engineering 202.

(Required in IV).

304. Railroad Construction. (2-0).

Railroad surveys; materials; structures; equipment; costs; economics.

Text: Design of Railway Location, Williams.

Prerequisite: Civil Engineering 303.

(Required in IV).

305. Mechanics of Materials. (3-2).

This course covers a treatment of the resistance of materials and the mechanics of pipes, riveted joints, beams, columns, shafts, etc.

Practice consists of determination of the strength, ductility, modulus of elasticity, and other properties of engineering materials. Various tests of timber, steel, cast iron, cement, etc., are made by the student and reports submitted showing results. In these reports considerable attention is given to the presentation of results in clear and condensed form by means of curves and tables.

Text: *Strength of Materials*, Boyd.

Laboratory fee, \$1.00.

Prerequisite: Mathematics 204; Civil Engineering 204 or equivalent, or registration in equivalent course.

(Required in III).

306. *Masonry.* (3-0).

The fundamental principles involved in the design and construction of masonry structures in general are treated in this course. Reinforced concrete, however, receives further and more detailed consideration in courses 413 and 414.

Text: *Masonry Structures*, Spalding.

Prerequisite: Civil Engineering 305 or 307.

(Required in IV).

307. *Strength of Materials.* (4-2).

Same as course 305, except that the strength and mechanics of materials used in engineering are studied in greater detail.

Laboratory fee, \$1.00.

(Required in IV, IX, group 2).

311. *Hydraulics.* (3-2).

The laws governing the action of water at rest and in motion, as related to engineering problems, the flow of water in pressure mains, sewers, aqueducts, open channels, and in rivers; measurement of the flow of water by nozzles, orifices, weirs and meters; estimates for water supply and water power; hydrography; theory and efficiency of water wheels, motors, turbines, rams and pumps.

The practice consists of calibration of nozzles, orifices, water meters, weirs, pressure gauges; efficiency tests on impulse motors, hydraulic rams, and one, two and three-stage centrifugal pumps.

Text: *Hydraulics*, Daugherty.

Prerequisite: Mathematics 203 or 205.

(Required in IV; elective in VIII).

319. *Farm Surveying.* (2-3).

Chain surveying; adjustments and use of instruments in leveling, compass and transit surveying, with special reference to application on farms. The necessary trigonometric formulas are taught in connection with this course.

Text: Surveying Manual, Pence and Ketchum.

Laboratory fee, 50 cents.

(Required in I, groups 4, 10; elective in I, group 9).

320. Topographic Drawing. (0-2).

This is a course of instruction and practice in the essentials of topographic drawing, and includes a study of the forms and practice in the execution of the common conventional signs; study and practice in the methods of showing configurations of the earth's surface by means of contours; study of the forms and practice in the execution of the conventional alphabets used in lettering on topographic maps; and practice in the execution of conventional signs and lettering in combination; practice in map drawing.

Text: Topographic Drawing, Stuart.

(Required in IV).

326. Plane Surveying. (1-3).

Same as course 206.

Laboratory fee, 50 cents.

(Required in IX, group 2; elective in VIII).

327. Mechanics of Materials. (3-0).

Same as course 305, except that no practice is given during the first term, the practice being covered by course 328.

(Required in V, XV).

328. Mechanics of Materials Laboratory. (0-2).

Same as the practice given in course 305.

Laboratory fee, \$1.00.

(Required in V, XV).

330. Framed Structures. (2-3).

This is a combination of courses 302 and 308 heretofore offered in the forty-fourth and preceding catalogues. The theory covers applications of the laws of equilibrium in the determination of stresses in roof trusses and bridge trusses; abbreviated methods for bridge trusses, including the use of index stresses.

The practice covers the elements of graphic statics; use of the force and equilibrium polygons in determining resultants, reactions, centers of gravity and bending moments; determination of stresses in bridge and roof trusses by the construction of stress diagrams.

Text: Modern Framed Structures, Part I, Johnson, Bryan and Turneure.

Prerequisites: Mathematics 204; Civil Engineering 204, 307.

(Required in IV, IX, group 2).

400. Field Practice. Summer Following Junior Year; 3 Weeks.

A practice course in which effort is made to approximate actual working conditions of preliminary and location surveys.

The class is required to complete exercises in railroad surveying; road and street location; mapping. Each student is drilled in the use of the transit and level in running preliminary and location lines; with the surveyor's compass in tying in land lines; with the hand level, pocket compass and pocket sextant in taking topography. Instruction is given in cross sectioning, staking out bridge openings, running drainage areas and determining the size of drainage openings. The care and adjustment of instruments are reviewed and observations on the sun and Polaris for determining the true meridian and latitude are repeated. Additional problems of benefit to the student will be assigned when time permits.

Reference texts: Field Manual for Railroad Engineers, Nagle; Notes on Railroad Summer Practice, Love.

Laboratory fee, \$1.50.

(Required in IV).

401. Railroad and Highway Drafting. (0-4).

Office methods of working up the notes of reconnaissance, preliminary and location surveys and maintenance surveys. This includes the completion of a map, a profile and estimate of the line located in course 400.

(Required in IV, groups 1, 2).

403. Roofs and Bridges. (4-6).

Continuation of work begun in course 330, and including influence lines, determination of stresses due to lateral loads. Study of the design of simple plate girder and truss spans. The student makes designs and general drawings and has some practice also in detailing.

Text: Modern Framed Structures, Parts I and III, Johnson, Bryan and Turneaure.

Prerequisite: Civil Engineering 330.

(Required in IV, group 1).

404. Bridge Design. (0-6).

A continuation of the practice in course 403.

Prerequisite: Civil Engineering 403.

(Required in IV, group 1).

406. Materials of Construction. (0-3).

A laboratory study of the suitability of various materials of engineering, including brick, stone, sand, gravel, cement, mortars and concrete.

Laboratory fee, \$2.00.

Prerequisite: Civil Engineering 305.

(Required in IV, group 1; IX, group 2).

407. Roads and Pavements. (3-0).

This course is provided for students in general Civil Engineering, and covers a brief study of country roads and city pavements. Highway location, design, construction and maintenance are studied; also road laws, finances, organization and supervision.

The text is supplemented by lectures, the use of bulletins, road machinery, models and samples of materials.

Text: Elements of Highway Engineering, Blanchard.

Prerequisite: Civil Engineering 201.

(Required in IV, group 1; I, group 3; XV).

410. Contracts and Specifications. (2-0).

A brief study of the law of contracts as applied to engineering operations; the relation of the engineer to the owner and to the contractor; the necessity for, and preparation of, engineering specifications and the accompanying documents; general and specific clauses in specifications; illustrative examples.

Texts: Elements of Specification Writing, Kirby; Contracts in Engineering, Tucker.

(Required in IV, V, XV).

411. Hydraulics. (3-0).

Same as course 311, except that no practice is given.

(Required in III; elective in V).

413. Elements of Reinforced Concrete. (2-0).

The theories of stress distribution, and various systems of reinforcement employed in the construction of beams and columns are discussed, and illustrative examples studied. Determination of stresses and elementary design, based upon the assumptions commonly made, are taken up by means of practical problems solved by the student.

Text: Reinforced Concrete Construction, Vol. I, Hool.

Prerequisite: Civil Engineering 204, 305.

(Required in IV, IX, group 2).

414. Reinforced Concrete Design. (2-3).

Study of the design of various types of reinforced concrete structures, such as buildings, bridges, retaining walls, culverts, etc. Practice is had in the making of simple designs and working drawings.

Text: Reinforced Concrete Construction, Vol. II, Hool.

Prerequisite: Civil Engineering 413.

(Required in IV, group 1; IX, group 2).

415. Highway Construction and Maintenance. (4-0).

This course covers the location, design, construction and maintenance of all types of roads and pavements. The text is supplemented by fre-

quent reference to bulletins, standard specifications, trade catalogues, proceedings of engineering societies, and current engineering periodicals.

Text: *The Construction of Roads and Pavements*, Agg.

Prerequisite: Civil Engineering 201.

(Required in IV, group 2).

417, 418. *Highway Materials.* (1-3).

The various materials used in the construction and maintenance of roads and pavements are studied with special reference to their suitability for the various types of construction. The production, refining and testing of bituminous materials and control of the manufacture of the various pavement mixtures are studied in detail. The laboratory work consists of standard tests of bituminous and non-bituminous materials.

Text: *Laboratory Manual of Bituminous Materials*, Hubbard, and bulletins.

Laboratory fee, \$2.00, first term; \$3.00, second term.

Prerequisite: Senior classification in engineering.

(Required in IV, group 2).

423. *Bridge Design.* (2-3).

A study of the stresses in highway bridges and the making of simple designs.

Text: *Design of Highway Bridges*, Ketchum.

Prerequisite: Civil Engineering 330.

(Required in IV, group 2).

426. *Highway Bridges and Culverts.* (1-5).

This course includes lectures and problems in the design and construction of highway bridges and culverts. The types of bridges best suited to various traffic conditions are studied, and such questions as the size of waterways, width of road, etc., are taken up in detail.

Text: *Design of Highway Bridges*, Ketchum.

Prerequisite: Civil Engineering 413, 423.

(Required in IV, group 2).

429. *Highway Laws and Economics.* (3-0).

This course includes a study of the Texas highway laws with a comparison of the laws of other States. Problems of economical selection and financial justification for construction are also studied along with the various methods of financing.

Text: *Engineering Economics*, Fish.

Prerequisite: Senior or junior classification, engineering courses.

(Elective in IV, group 2).

434. *Irrigation and Drainage.* (2-0).

Determination of the quantity of water available; collection and stor-

age works; design, location and construction of distributive systems; economic use and duty of water in irrigation; water rights.

Text: Irrigation Engineering, Wilson and Davis.

Prerequisite: Civil Engineering 311.

(Required in IV, group 1).

440. *Sanitary Engineering.* (4-2).

A study of the collection, storage and distribution of water for municipal use; the necessity for and methods of water purification; design and construction of waterworks systems. A study of questions relating to quantity of sewage; design, construction and maintenance of sewerage systems; sewage treatment and disposal.

Text: To be selected.

Prerequisite: Civil Engineering 311.

(Required in IV).

441. *Hydraulics.* (3-2).

Same as course 311.

(Required in XV).

DAIRY HUSBANDRY.

PROFESSOR POU, ASSOCIATE PROFESSORS CLUTTER, DARNELL.

101. *Judging Dairy Cattle.* (0-2).

A study of dairy type, and the correlation between type and milk production. First, thorough training is given in the scoring of dairy cattle, and this is followed by comparative judging of typical individuals of the major breeds of dairy cattle.

(Required in I, XII).

102. *Dairying.* (2-2).

Same as course 202.

(Required in XII).

202. *Dairying.* (2-2).

The secretion of milk and the composition of milk and its products; the use and application of the lactometer in the determination of the total solids and adulteration of milk; the various methods of cream raising and separation; and the principles of making butter and ice cream on the farm and in the home.

Laboratory fee, 50 cents.

Text: Milk and Its Products, Wing.

(Required in I, XII).

301. *Market Milk and Milk Inspection.* (2-2).

A study of the food value of milk; the production, handling and sale of market milk; advanced registry testing; city milk inspection.

Text: The City Milk Supply, Parker. References assigned.

Prerequisite: Dairy Husbandry 202.

(Required in I, group 7, and in XI).

304. *Advanced Dairy Cattle Judging.* (0-2).

A further study of comparative judging of dairy cattle.

References assigned.

Prerequisite: Dairy Husbandry 101.

(Elective in I, group 7).

306. *Butter Making and Factory Management.* (2-2).

Types of creameries; raw product received; grading; pasteurization; use of commercial starters; ripening; churning; salting and working butter; explanation of various physical phenomena in making, packing and storing butter. Creamery location and plans; business accounting and management in various types of creameries. The making of commercial buttermilk and soft cheese.

Text: The Butter Industry, Hunziker.

Prerequisite: Dairy Husbandry 202 and 301.

(Required in I, group 7).

404. *Seminar.* (2-0).

A study along selected lines of research, with a review and study of recent Experiment Station work.

(Elective in I, group 7).

406. *Dairy Cattle Feeding and Management.* (3-2).

This course covers the field of dairying in its relation to the producer. The breeding, feeding, care and management of dairy cattle is given special consideration.

Texts: Dairy Cattle Feeding and Management, Larson and Putney; Feeds and Feeding, Henry and Morrison.

Prerequisite: Dairy Husbandry 408; Animal Husbandry 401.

(Required in I, group 7).

407. *Ice Cream Making and Refrigeration.* (2-2).

Mixing and freezing of ice cream; sherberts and other frozen products, and the physical principles involved; type of freezers; flavoring materials; fillers; binders; ice cream standards; the theory and practice of artificial refrigeration and its use in the ice cream plant.

Text: The Book of Ice Cream, Fisk.

Prerequisite: Dairy Husbandry 202 and 301.

(Elective in I, group 7).

408. *Herd Book Study.* (0-4).

The tracing and study of the pedigrees of the leading strains and families of dairy cattle, with special reference to official records.

Prerequisites: Dairy Husbandry 202; Animal Husbandry 302.
(Elective in I, group 7).

FOR GRADUATES.

501, 502. *Advanced Dairy Husbandry.* (3-4). *Major.*

This course involves a study of the more recent investigations in dairy cattle feeding, breeding, management, manufacturing and marketing dairy products; methods of investigation as well as results are given consideration; Experiment Station literature; scientific journals and advanced text-books on these subjects are reviewed by the students, who are required to attend classes three hours weekly for lecture, recitations or conference. A thesis based upon original investigation is required as part of this course.

501a, 502a. *Advanced Dairy Husbandry.* (2-4). *Minor.*

A modification of course 501 and 502.

FOR STUDENTS IN SHORT COURSES.

23. *Farm Dairying.* (3-2).

An elementary course in selecting and handling dairy cattle; rearing dairy calves; methods of milking; testing milk; care and handling milk and dairy products on the farm.

Text: *Farm Dairying*, C. Larsen.
(Required in C).

55. *Dairy Cattle Feeding and Management.* (2-2).

The feeding, breeding and management of dairy cattle from the standpoint of the practical dairyman.

Text: *Dairy Cattle and Milk Production*, Eckles; supplemented by lectures.

Prerequisite: Dairy Husbandry 23.
(Elective in C).

DEPARTMENT OF DRAWING.

PROFESSOR A. MITCHELL, PROFESSOR GEIST, ASSISTANT PROFESSORS MILNER, R. S. FOURAKER, MR. MULLINS, MR. BAKER.

101. *Mechanical Drawing.* (0-3).

Care and use of drawing instruments, simple exercises in the use of drawing instruments, instrumental and free-hand lettering, geometrical

constructions, construction of plane curves, orthographic and axonometric projections.

Text: Mechanical Drawing, Giesecke and Mitchell.

(Required in all four-year engineering courses and in IX and XIII).

102. Mechanical Drawing. (0-3).

Problems in descriptive geometry involving points, lines, planes, tangency, intersections of planes and solids, intersections of solids, development of surfaces, shades and shadows, linear perspective. This course is parallel to and is an application of courses 103 and 104.

Text: Instrumental Exercises, Descriptive Geometry, Mitchell.

Prerequisite: Drawing 103.

(Required in all four-year engineering courses and in XIII).

103, 104. Descriptive Geometry. (2-0).

Class-room exercises, quizzes and lectures on general and special problems relating to points, lines, planes and solids; problems in shades and shadows and in perspective. Special attention is paid to the representation of objects by orthographic projection in the first and third angles.

Text: Descriptive Geometry, Giesecke and Mitchell.

(Course 103 is required in all four-year engineering courses and in IX and XIII. Course 104 is required in all four-year engineering courses and in XIII).

105, 106. Free-hand Drawing. (0-1).

Drawing from geometrical solids, common objects, plaster casts, still life, to study form, proportion, light and shade; in the second term special attention is given to measuring, dimensioning and describing machines, machine parts, engineering structures and details.

The course is varied to meet the practical needs of students in the different engineering departments.

(Required in all four-year engineering courses and in XIII).

109, 110. Free-hand Drawing. (0-3).

Same as courses 105 and 106 for the first term. In the second term, adaptation of light and shade in architectural drawing.

(Required in IX).

119. Mechanical Drawing. (0-2).

Similar to course 101.

Text: Mechanical Drawing, Giesecke and Mitchell.

(Required in X).

120. Free-hand Drawing. (0-2).

Similar to courses 105 and 106.

(Required in X).

122. *Mechanical Drawing.* (0-3).

Same as course 101.

(Required in XIV).

201, 202. *Mechanical Drawing.* (0-3).

Standard conventional section lining, drawing of standard bolts, nuts, rivets and threads; helixes, elementary parts of machines and engineering structures; details and assemblages; Patent Office drawing, tracing, blue printing. The student is required to carefully sketch and measure his model in the drawing room, shop or field. From his dimensioned sketch he makes, on detail paper, traces and blue prints his working drawing.

The course is varied to meet the practical needs of students in the different engineering departments.

Text: *Mechanical Drawing*, Giesecke and Mitchell.

Reference text: *Engineering Drawing*, French.

Prerequisite: *Drawing 101*.

(Required in VIII, XIII).

201a, 202a. *Mechanical Drawing.* (0-2).

A modification of courses 201 and 202.

Text: *Mechanical Drawing*, Giesecke and Mitchell.

Reference text: *Engineering Drawing*, French.

Prerequisite: *Drawing 101*.

(Required in IV, V, VI).

203. *Color Harmony and Design.* (0-3).

Exercises in the harmony of color, including the use of water and distemper colors for the purpose of training the student in the use of correct color combinations. Decorative and constructive design.

(Required in XIII).

209. *Free-hand Drawing (Advanced).* (0-4).

Line charcoal drawings of full-length antique and modern subjects; shaded charcoal drawings from casts of more complex architectural ornament.

Prerequisite: *Drawing 109 and 110*.

(Required in IX, groups 1, 2).

210. *Free-hand Drawing (Advanced).* (0-4).

A continuation of course 209.

Shaded charcoal drawings of full-length antique and modern subjects.

Prerequisite: *Drawing 209*.

(Required in IX, groups 1, 2).

309, 310. *Free-hand Drawing.* (0-4).

Pen and ink, pencil and water color rendering.

Prerequisite: Drawing 210.

(Required in IX, groups 1, 2).

315. *Mechanical Drawing.* (0-3).

Exercises in the use of drawing instruments, instrumental and free-hand lettering, geometrical constructions, orthographic and isometric projections.

Text: Mechanical Drawing, Giesecke and Mitchell.

(Required in I, group 10).

316. *Free-hand Drawing.* (0-3).

Elementary principles of free-hand drawing during first part of the term, followed by water color rendering of foliage and general entourage.

(Required in I, group 10).

317. *Mechanical Drawing.* (0-3).

Elementary architectural drawing, including plans, elevations, sections, window and door details, structural steel construction, masonry construction, carpentry, etc.

(Required in XIII).

318. *Machine Drawing.* (0-3).

Correct representation of objects; approved methods of dimensioning drawings; sketching and measuring machine parts; standard conventions; cycloidal and helical curves; screw heads, spur wheels, bevel and worm gears; cam construction.

Text: To be announced.

Prerequisite: Drawing 201 or 101.

(Required in XIII).

319. *Mechanical Drawing.* (0-2).

Similar to course 318.

Prerequisite: Drawing 201 or 101.

(Elective in X).

320. *Free-hand Drawing.* (0-2).

Similar to course 310.

Prerequisite to Drawing 120.

(Elective in X).

409, 410. *Free-hand Drawing (Life Class).* (0-4).

Architectural rendering; black-and-white and color studies of the undraped figure; sketches of the draped figure in various media.

Prerequisite: Drawing 309 and 310.

(Required in IX, group 1).

FOR STUDENTS IN SHORT COURSES.

11, 12. *Mechanical Drawing.* (0-3).

Proper care and correct use of drawing instruments, simple exercises in the use of drawing instruments, lettering, geometrical constructions, standard conventional signs, sketching, measuring and dimensioning elementary parts of machines.

This course is varied to meet the practical needs of students in the different engineering departments.

Text: *Mechanical Drawing*, Giesecke and Mitchell.

(Required in H, N).

13. *Free-hand Drawing.* (0-1).

Similar to course 105.

(Required in H, N).

14. *Free-hand Drawing.* (0-1).

Similar to course 106.

(Required in H, N).

15, 16. *Mechanical Drawing.* (0-2).

A modification of courses 11 and 12.

Text: *Mechanical Drawing*, Giesecke and Mitchell.

(Required in M).

61. *Mechanical.* (0-3).

Same as course 11.

(Elective in C).

DEPARTMENT OF ECONOMICS

PROFESSOR CLARK.

201. *Elementary Economics.* (3-0).

This course is designed only to lay the basis for further work in economic theory. No effort will be made to cover the whole field of economics as is done in courses 305, 306, and 403.

Text: To be selected.

(Required in XIV).

202. *Business Law.* (2-0).

This course is especially fitted for those who plan to enter general business practice, but is important in all spheres of American life. Such subjects as the following are studied: the nature and scope of law, contracts, sales, agency, negotiable instruments, employment, partnership, personal property, real property, wills and inheritances, surety, bankruptcy, etc.

Text: *The Law in Business Problems*, Schaub and Isaacs.

(Required in XIV).

305. Fundamental Principles. (3-0).

This course consists of the theory of economic activities concerning production, distribution and consumption; and the practical problems of credit, banking, foreign exchange, monetary systems, co-operation, tariff, transportation, trusts, corporations, finance and taxation. The assignments in the text are supplemented by expositions and explanations by the instructor, and by reports by the students.

Text: Principles of Political Economy, Seager.

(Required in X, XIV).

306. Fundamental Principles. (3-0).

Same as course 305.

(Required in I, XII).

312. Money and Banking. (3-0).

Same as course 411. (Not offered during 1922-23).

(Required in X).

403. Fundamental Principles. (3-0).

The work in this course is not materially different from that given in courses 305 and 306. On account of the fact that this is a senior course the discussions are somewhat more comprehensive and exhaustive. Also, since the students taking this course are primarily interested in engineering subjects, more emphasis is placed on general business principles.

Text: To be selected.

(Required in III, IV, V, VI, VIII, IX, XIII, XV).

411. Money and Banking. (3-0).

In this course effort is made to familiarize the student with such questions as the following: The evolution of money, the various forms of credit, the history of banking institutions, banks in other countries, the relation of money to banks, the Federal Reserve System, etc. The work is supplemented by reports and class discussions.

Prerequisite: Economics 305 or 306.

Text: To be selected.

(Required in XIV).

408. Corporation Finance. (3-0).

This course considers the common forms of business organization, but special attention is given to corporations as the most important of these. The subjects taken up in connection with the text are the following: advantages and disadvantages of incorporation, formation and organization, capital stocks and bonds, legal status of corporations, bankruptcy and reorganization, etc. The work is supplemented by reports from the class and discussions by the instructor.

Prerequisite: Economics 403.

(Required in XIV).

FOR GRADUATES.

501. History of Economic Doctrines. (3-0). One-half Minor.

The purpose of this course is to study in detail, beginning with the Physiocrats, the growth of the science of economics. A careful study is made of the various schools of economists, and an analysis is made of such fundamental concepts as production, value, capital, wages, interest, profits, etc., as they have appeared from time to time in the writings of leading economists. Gide and Rist's *History of Economic Doctrines* serves as a guide into these authorities.

502. Advanced Marketing. (3-0). One-half Minor.

This being an advanced course, it should not be attempted without a solid foundation in economic theory and business principles. In the course little attention is paid to the elementary marketing processes, but special emphasis is placed upon the underlying theories relating to the system of transferring goods from producers to consumers. In connection with the lectures by the instructor and special investigations by the students, a critical study is made of Alfred Marshall's *Industry and Trade*.

DEPARTMENT OF ELECTRICAL ENGINEERING

PROFESSOR BOLTON, PROFESSOR WOOTEN, ASSOCIATE PROFESSORS STRAW, SECHRIST, ASSISTANT PROFESSORS YATES, MARKLE, MR. L. L. FOURAKER, MR. LEGG, MR. PAXTON.

201. Electricity and Magnetism. (4-4).

Lectures, recitations and problems in electricity and magnetism.

This includes a laboratory investigation of the phenomena studied in the text-book.

Laboratory fee, 75 cents.

Prerequisite: Mathematics 102, 103.

(Required in V).

202. Elementary Electrical Engineering. (2-4).

Lectures and recitations on simple electric circuits, primary and secondary batteries, battery charging, simple telephone circuits, the magnetic circuit, inductance and capacity.

A short time is devoted to the study of the National Electric Code, and of methods of wiring.

The practice is intended to clarify the ideas received by the student in the class room. It includes the accurate measurement of various electrical quantities, such as resistance, inductance, capacity, and the effect of temperature, position, etc., on these quantities; a study of the various types of batteries to determine their adaptability to different

uses; calibration and repair of instruments, such as ammeters, voltmeters, and wattmeters; tests of the magnetic properties of iron.

Laboratory fee, 75 cents.

Prerequisite: Electrical Engineering 201, Mathematics 104.

(Required in V).

206. Motors, Wiring and Lighting. (2-2).

Same as course 412.

Laboratory fee, \$1.00.

(Required in XIII).

301. Direct Currents. (4-6).

This course is devoted to the study of the theory, design, and applications of direct current machinery.

The practice is intended to give practical demonstration of the theory. It includes the operation of dynamos and motors, the determination of characteristics and the measurements and calculation of losses, efficiencies and regulation.

Laboratory fee, \$1.50.

Prerequisite: Electrical Engineering 202, Mathematics 204.

(Required in V).

302. Alternating Currents. (5-6).

Lectures and recitations on the principles of alternating currents, including a study of the relations of voltage, current, resistance, inductance and capacity.

An experimental study of the effect of resistance, reactance, and capacity on alternating current circuits; the determination of wave shapes; and tests of some of the simpler types of alternating current machines.

Laboratory fee, \$1.50.

Prerequisite: Electrical Engineering 301, Mathematics 204.

(Required in V).

305. Electrical Machinery. (3-2).

Lectures and recitations on the operation and characteristics of dynamos, motors and transformers of the types most commonly met with in general engineering practice. This course is intended to give only a general idea of the subject. The course is abbreviated so that only the more fundamental principles are studied.

Text: Principles and Practice of Electrical Engineering, Gray.

The practice is designed to give the general engineering student a slight degree of familiarity with the operation and the more important characteristics of both direct current and alternating current machines.

Laboratory fee, \$1.00.

Prerequisite: Physics 204, Mathematics 204.

(Required in IV, VIII, IX, group 2; XV).

307, 308. Electrical Machinery. (3-0, 2-3).

This course includes instruction in the fundamental principles of direct and alternating current machinery, and operating characteristics of electrical machinery usually installed in power plants and electrically operated industrial enterprises.

Practice includes the operation of the principal types of electric motors, generators and transformers; and the study of their operating characteristics.

Laboratory fee, \$1.00, second term.

Prerequisite: Physics 204, Mathematics 204.

(Required in III, VI).

309, 310. Communication Engineering. (2-0, 2-2).

Construction and theory of telephone, telegraph and radio apparatus. A study of magneto and central battery circuit, alternating current telegraphy, telephone cable construction, poles, towers, insulators, radio communication.

Practice includes the laboratory study of circuits and instruments studied in the course. It emphasizes the fundamental principles rather than the mechanical details of modern practice.

Prerequisite: Electrical Engineering 201, 202 or Physics 204. Must be accompanied by Electrical Engineering 301, 302 or 307, 308.

Laboratory fee, \$1.00, second term.

(Elective in V).

401, 402. Alternating Current Machinery (5-8, 3-4).

This course embraces a study of alternating currents and alternating current machinery, including methods of generation, transformation and use; a study of wave forms and quantities affecting wave forms; and the effect of balanced and unbalanced loads.

The subject is treated from both the graphical and the mathematical viewpoint, the text being supplemented by lectures and problems.

The practical operation and determination of the characteristics of various types of alternating current machines.

Text: Principles of Alternating Current Machinery, Lawrence.

Prerequisite: Electrical Engineering 302 or 308.

Laboratory fee, \$1.50 each term.

(Required in V).

406. Electric Power Distribution. (2-2).

Lectures and recitations on the transmission and distribution of power by electrical methods.

Practice includes the design and cost estimates of several transmission and distribution systems.

Prerequisite: Electrical Engineering 401.

(Required in V).

408. General Problems. (0-2).

A course of problems based on all engineering work required of the student previous to graduation.

Prerequisite: All subjects required before the second term of the senior year.

(Required in V).

409, 410. Advanced Communication Engineering. (2-3, 1-3).

Advanced telephone, telegraph and radio engineering, including a study of vacuum tubes, long distance telephone circuits, line and cable loading, induction effects, transpositions, phantom circuits, submarine telegraphy, telephone and telegraph repeaters, multiplex telegraphy and telephony, and radio telephony.

Practice includes the laboratory study of circuits and instruments studied in the course. It emphasizes the fundamental principles rather than the mechanical details of modern practice.

Prerequisite: Electrical Engineering 309, 310.

(Elective in V).

412. Motors, Wiring, Lighting. (2-2).

An elementary course covering:

(a) A study of the characteristics of the more frequently used types of electric motors.

(b) Lectures on methods of electric wiring for lights and power.

(c) Lectures and recitations on the principles of illumination.

(Elective in I).

423. Electric Railways. (3-0).

A study of railway apparatus, costs of construction and operation of electric railways systems, and operation methods.

The practice in this course consists of the test of electric railway motors, controllers, and other appliances, and tests of electric cars.

Prerequisite: Electrical Engineering 301.

(Required in V).

426. Illumination. (1-2).

A course dealing with the principles of illumination and the application of these principles to specific cases. Attention is given to the arrangement of electric lights for decorative purposes as well as for useful illumination.

The practice in this course includes the test of various types of lighting units, the design of lighting systems, and the test of the illumination of buildings already lighted.

Laboratory fee, 50 cents.

Prerequisite: Electrical Engineering 302.

(Required in V).

428. *Telephone Engineering.* (2-0).

A study of telephone circuits and telephone transmission.

Prerequisite: Electrical Engineering 301, 305, or 307.

(Required in V).

436. *Wiring and Lighting.* (3-0).

(a) A study of the fundamentals of interior wiring.

(b) The principles of artificial illumination with a study of modern types of illuminants.

(Required in IX, group 2).

FOR STUDENTS IN SHORT COURSES.

21. *Electricity and Magnetism.* (4-4).

A modification of course 201.

Laboratory verification of the laws studied in the theory. The course also includes the use of instruments for the measurements of voltage, current, resistance, etc.

Laboratory fee, \$1.00.

(Required in N).

22. *Direct Currents.* (4-4).

A modification of course 301.

Laboratory fee, \$1.00.

(Required in N).

55. *Alternating Currents.* (5-4).

A study of alternating currents with particular emphasis laid on the practical application of the subject matter. As far as possible, the subject is treated from the graphical viewpoint.

Laboratory fee, \$1.00.

(Required in N).

56. *Electrical Machinery.* (5-4).

A study of the types of electrical machinery usually found in power plants and electrical installations. The course deals principally with alternating current machinery.

The practice includes the test of alternating current machines.

Laboratory fee, \$1.00.

(Required in N).

61, 62. *Electrical Laboratory.* (0-4).

Laboratory tests of electrical meters and other machines, practice in installing electric wiring and in constructing and repairing electric machines.

Laboratory fee, \$1.00 each term.

(Required in N, group 1).

65, 66. *Applied Electricity.* (3-0).

The study of wiring methods, meters, storage batteries, lighting, and line construction.

Practice for this course is given in course 61, 62.

(Required in N, group 1).

DEPARTMENT OF ENGLISH

ACTING PROFESSOR COFER, ASSOCIATE PROFESSORS THOMAS, BRACKETT,
ASSISTANT PROFESSORS GUNTER, PAGE, HICKMAN, MORGAN,
MR. BITTLE, MR. SPAHR.

103, 104. *Rhetoric and Composition.* (3-0).

This course involves recitations, oral and written, readings from masterpieces of literature, and composition writing.

(Required in all four-year courses; elective in C).

203, 204. *English Composition.* (2-0).

This course is intended to give the student practice in writing themes and reports on subjects related to his studies in agriculture or in engineering. Attention is also given to the writing of business letters.

Prerequisite: English 103, 104.

(Required in all four-year courses).

301, 302. *Argumentation.* (1-0).

This course involves a study of the essentials of argumentation, and practice in drawing briefs.

Prerequisite: English 203, 204.

(301: Required in I, III, V, XI, XII, XIV).

(302: Required in III, IV, V, VI, VIII, IX, groups 1, 2; XI, XII, XIV, XV).

303, 304. *Argumentation.* (2-0).

This course is a modification of course 301, 302. More time is devoted to reading and to oral discussions than is available for course 301, 302.

Prerequisite: English 203, 204.

(303: Required in IV, VI, VIII, IX, groups 1, 2; X, XV).

(304: Required in I, X, XIV).

321, 322. *Victorian Literature.* (3-0).

In this course English literature of the Victorian era is treated as a reflection of the predominant ideals in politics, economic theory, science, philosophy, and religion. Weekly themes in connection with the reading are a feature of the course.

(Elective in all four-year courses except XI, XII).

423, 424. *Contemporary Literature.* (2-0).

The purpose of this course is to acquaint the student with the trend of thought of the twentieth century as exemplified in standard literary productions. Particular attention is given to writings which reflect political, social, scientific, and ethical movements, such as democracy in government, world consciousness, complexity of society and industry, research, forces in social reconstruction. Parallel readings, with oral and written reports, are required.

(Required in X).

401, 402. *Public Speaking.* (1-0).

The aim of this course is to help the student to a simple, direct manner of speaking. The work consists of the oral interpretation of some of the best orations, writing and delivering original pieces, and debating. Personal conferences with the instructor are required.

(Required in all four-year courses).

403, 404. *Public Speaking and Lecturing.* (3-0).

The aim of this course is to give more practice in speaking than is offered in the required one-hour course. Attention is given to the preparation and delivery of special types of speeches and of lectures on popular scientific and industrial subjects. The course is recommended to those who expect to be engaged in teaching, in the extension field, or in similar lines of public service. Conferences with the instructor are required.

(Elective in all four-year courses except X, XI, XII).

FOR STUDENTS IN SHORT COURSES.

31, 32. *Practical Composition.* (3-0).

This course includes a review of the fundamental principles of composition. The written exercises are on practical subjects, especial attention being given to business correspondence.

(Required in all two-year courses).

ENTOMOLOGY

PROFESSOR BILSING, ASSOCIATE PROFESSOR FLETCHER,
ASSISTANT PROFESSOR REMY.

201. *General Entomology.* (2-2).

In this course the student is taught the systematic position of the various insects. The relation of the anatomy of insects to control measures is also studied. The life histories of the more common insects are given, together with the methods of control for the injurious forms.

Laboratory fee, 50 cents.

Text: Elementary Entomology, Sanderson and Jackson.

(Required in I).

203. *Veterinary Entomology.* (3-2).

A study is made of the more important insects which affect domesticated animals. Special attention is given those insects which act as disease carriers. Methods of control are discussed. Flies, fleas, ticks, and mites are some of the forms which are given attention in this course.

Text: Veterinary and Medical Entomology, Herms.

(Required in XI).

205. *Systematic Entomology.* (2-2).

This course includes a systematic study of the most common insects. The anatomy and physiology of insects will be discussed together with their relationships to plants and other animals.

(Elective in X).

Laboratory fee, 50 cents.

206. *Economic Entomology.* (2-2).

The life histories, habits and control methods of the common injurious insects will be considered in this course. The control of insect outbreaks by the use of parasites and entomogenous fungi will be considered. Special emphasis will be given to insecticides, spraying and dusting machinery.

(Elective in X).

Laboratory fee, 50 cents.

301, 302. *Systematic Entomology.* (2-2, 3-2).

A thorough, systematic study of the various orders of insects is made in this course. The student has free access to the entomological library, which contains bound volumes of all standard publications on entomology, keys, etc. The student also has access to a considerable insect collection for identification purposes.

Text: Comstock's Manual of Insects.

(Elective in I, X).

304. Apiculture (Elementary). (2-2).

This is an elementary course in beekeeping open to all four-year students. The course is arranged so as to give the student a working knowledge of beekeeping which will prepare him for conducting a small apiary in connection with general farm work or for entering commercial beekeeping as a vocation. The course includes a study of the life history of the honey bee, methods of making hives and equipment, and the control of bee diseases. The department is equipped with an apiary, hives, tools, wax presses, automatic extractors, and the standard equipment used in beekeeping.

Text: Productive Beekeeping, Pellet.
(Elective in I, X).

306. Animal Parasites. (3-0).

This course consists of a study of insects and other anthropods which are parasitic upon domestic animals or which are concerned in the transmission of diseases of live stock. Methods of eradication and control are given due emphasis.

Prerequisite: Entomology 201.
(Elective in I, group 5).

307. Apiculture. (3-2).

This course is intended for those who wish to make a special study of beekeeping and should be followed by Entomology 308 and Entomology 408. A study is made of the biology of the honey bee. Working over out-of-date equipment, extracting honey and the preparation of wax are given due attention. Some time is given to studying the various methods of wintering.

(Elective in I, X).

308. Apiculture. (3-4).

Special attention is given to the honey plants and the areas most suited to beekeeping. A study is made of the methods of swarm control, hive manipulation and increase. The marketing of wax and honey and the methods used in eradicating bee diseases is studied.

(Elective in I, X).

312. Medical Entomology. (3-2).

This course is intended for those who wish to specialize in the general sciences. It comprises a study of the life histories, habits, and control methods of insects which are directly concerned in the transmission of human diseases such as yellow fever, malarial fever, typhus fever, bubonic plague, etc.

Laboratory fee, \$1.00.

Text: Medical Entomology, Johannsen and Riley.
(Elective in X).

401. *Advanced Economic Entomology.* (3-2).

This course is arranged for students intending to follow entomological work. Particular attention is given to economic problems, methods of entomological research, and field methods of insect investigation and control. This course also embraces insectary methods of breeding insects and studies of insect parasitism.

Prerequisite: Entomology 201.

(Elective in I, X).

402. *Advanced Economic Entomology.* (3-2).

A continuation of Entomology 301. In addition to a field and laboratory study of life histories which has been carried on in course 301, the student goes into a detailed study of insecticides. Various types of spraying machinery, dusting machines, fumigating apparatus are discussed.

(Elective).

403. *Entomological Literature.* (3-2).

The aim of this course is to acquaint the student with the most important works on the classification of insects. Publications of various entomologists are discussed. A review of the more important bulletins published by the United States Department of Agriculture and the various State Experiment Stations is made.

(Elective in X).

405. *Fruit Insects.* (2-2).

This course is intended for students who are specializing in horticulture and who wish more definite information concerning the insect pests of fruit and truck crops. A detailed study is made of the life history, habits and control of the pests of these crops. Special attention is given to control methods adapted to Texas conditions and to the value of parasites and orchard management in the control of insect pests.

(Elective in I, group 9).

407. *Economic Entomology.* (3-2).

Special attention is given to the insects which are directly beneficial or injurious. A study is made of the life history of the important pests of farm crops, fruits, vegetables, and live stock. Methods of control and means of preventing insect outbreaks are given due consideration.

In the laboratory the student studies spraying machinery, fumigating apparatus and dusting machinery, the more important insecticides and makes and applies them when possible.

Text: *Pests of Farm, Orchard and Garden*, Sanderson and Peairs.
(Elective in I, groups 4, 9).

408. *Apiculture, Queen Rearing.* (1-4).

The student is given the theory of the various methods of queen rearing. Part of the time is given to the methods of shipping combless packages of bees, and management of apiaries.

Text: Practical Queen Rearing, Pellet.
(Elective).

410. *Seminar.* (0-2).

An informal conference is held once a week with the members of the department in which the student reports on some important problem. Reviews of various entomological publications are given.

(Elective in X).

FOR GRADUATES.

501, 502. *Research Entomology.* (3-4). *Major.*

A special research problem is assigned to each student taking this course, in which he makes a life history study of some important insect. The student will make a study of all available published literature on this subject. In addition to this, he will make a systematic study of some group of insects, either of the group to which the insect belongs of which he is making a life history study or of some related group.

Laboratory fee, \$2.00 each term.

501a, 502a. *Research Entomology.* (2-4). *Minor.*

A modification of course 501, 502.

505, 506. *Advanced Apiculture.* (3-4). *Major.*

Part of the time in this course is devoted to a problem in apiary management or in the study of one or more of the diseases affecting bees. Grading and marketing honey, foul brood laws, and methods of eradicating bee diseases are given due consideration.

505a, 506a. *Advanced Apiculture.* (2-4). *Minor.*

A modification of course 505, 506.

507, 508. *Economic Entomology.* (3-4). *Major.*

In this course a detailed study is made of the most important economic pests. A comparison is made of the structure of insects belonging to the same group which attack our more important crops. In addition to this, cultural methods, trap crops, insecticides, and fumigation are discussed in connection with these insects.

Laboratory fee, \$2.00 each term.

507a, 508a. *Economic Entomology.* (2-4). *Minor.*

A modification of course 507, 508.

FOR STUDENTS IN SHORT COURSES.

22. Elementary Economic Entomology. (2-2).

This course is intended for those students who do not have the time to make a careful study of insects but who are interested in obtaining information on the control of our more common pests, together with a knowledge of the commoner insecticides. As far as time permits, a general discussion is made of the most common pests of cotton, wheat, oats, corn, fruits, and live stock.

Laboratory fee, 50 cents.

(Required in C).

56. Elementary Apiculture. (2-2).

A study is made of the habits of the honey bee, behavior in swarming and methods of increase. Most of the time is devoted to a study of the methods of manipulation, transfer, and swarm control.

(Elective in C).

DEPARTMENT OF FARM MANAGEMENT

PROFESSOR WHELPTON.

301. Farm Cost Accounting. (1-4).

Based on the accounting course given by the Department of Agricultural Economics. Applies to farm conditions the general book-keeping principles and methods, and considers in detail the recording of internal farm transactions; the distribution among the farm enterprises of such costs as man labor, horse labor, use of land, and use of buildings; the preparation of cost statements for each enterprise and the business as a whole; the interpretation of these accounts and statements and their application to the organization and management of the farm business.

Text: Farm Accounting, Scovill.

(Elective in XIV, group 2; not given in 1922-23).

302. Farm Management. (3-4).

The application of the principles taught in the various agricultural and economic courses to the organization and administration of the individual farm business, the point of view being, "How can I plan and run my farm to achieve the greatest success?" Specific topics are: Farming as a business; types of farming; size, diversity, and quality of business; farm layout and building arrangement; equipping a farm as to labor, work stock, power, and machinery; forms of leasing; choosing and buying a farm; planning work and business transactions; using capital and credit; analyzing business to locate weaknesses; adapting

business to changing conditions; planning the organization and management of specific farms.

Text: Farm Management, Warren.

(Required in XIV; not given in 1922-23).

401. *Farm Management.* (2-4).

Similar to course 302, but more brief and general in nature.

Text: Farm Management, Warren.

(Required in I, XII).

402. *Farm Management.* (3-4).

Same as course 302.

(Required in XIV, XV, session 1922-23).

404. *Farm Records.* (1-4).

How to keep the simple records needed to show how well the farm business is paying and to serve as a basis for making improvements to increase profits. Farm inventories, cash accounts, income tax statements, costs of single enterprises, and other farm records are carefully considered.

Text: To be selected.

405. *Business Analysis.* (1-6).

Applying the subject matter of course 302. Successful and unsuccessful farms are visited, their present organization and administration is studied thoroughly to bring out the desirable and undesirable features; their degree of success or failure is correlated with the extent to which sound farm management principles are followed; and careful plans that will rectify existing weaknesses are prepared. Advanced studies of certain farm management principles will be made during the course in connection with their application to the farms visited. One or two trips of two or three days will be made to important farming regions at some little distance from the College.

Text: Farm Management, Warren, and selected bulletins.

(Elective in XIV, group 2; not given in 1922-23).

406. *Advanced Problems.* (1-2).

An advanced study of such problems as adjusting farm organization and administration to changing farm business conditions. Considers in detail: causes, extent, and probable future trend of changes; their effect on different groups of farms; possible adjustments as to cost and effect on income and profit; proper time to make adjustments.

Text: To be selected.

(Elective in XIV, group 2; not given in 1922-23).

407. *Types of Farming.* (1-2).

An advanced study of the types of farming best adapted to various

parts of Texas and the United States, and of the natural and economic reasons giving these types their advantages.

Text: To be selected.

(Elective in XIV, group 2; not given in 1922-23).

408. *Ranch Management.* (2-2).

Farm management principles as they apply particularly to the ranch country of West Texas. Includes size, diversity and quality of business; ranch layout and building arrangement; ranch equipment; using capital and credit; planning the organization and management of specific ranches.

Text: To be selected.

(Elective in XIV, group 2; not given in 1922-23).

FOR GRADUATES.

501, 502. *Advanced Farm Management.* (3-4). *Major.*

An intensive study is made of such topics as farm business analysis, types of farming and factors affecting type, and farm management methods. Free use is made of the various farm management technical publications, and certain recent important investigations are carefully studied.

501a, 502a. *Advanced Farm Management.* (2-4). *Minor.*

A modification of course 501, 502.

FOR STUDENTS IN SHORT COURSES.

52. *Elementary Farm Management.* (2-4).

A study of the farm from a business standpoint. The course takes up such business problems confronting the farmer as the most profitable size of farm and combination of crop and live stock enterprises, and how to locate weak places in the business plan that can be improved with resulting profit.

Sufficient time is given to farm accounting in practice periods to show how to keep and use simple records of the farm business. One practice problem will be the equipping of a given farm and the planning and organizing of a year's business.

Text: Farm Management, Boss.

(Elective in C).

DEPARTMENT OF FORESTRY

PROFESSOR SIECKE, ASSISTANT PROFESSOR DREITZLER.

302. *Silviculture.* (2-2).

This course consists of two parts, a study of trees under natural conditions, and the planting and care of shade trees as well as trees set out in shelter-belts, wind-breaks, and wood lots. The first part

consists of a study of the life history of trees; the relation of different species to light, moisture, soil, temperature, and the effect of their association on the forest; origin and determination of forest types; the relation of forests to stream flow; description of forests; preparation of forest maps; improvement of young forests; and the proper cutting and use of mature forests so as to secure natural reproduction; silvicultural systems of cutting as practiced in the forests of Europe and the United States.

The second part deals with the species suitable for shade trees and for planting in shelter-belts, wind-breaks and wood lots; cost of planting; care of shade trees, parks and tree plantations; elementary tree surgery.

Text: Principles of Handling Woodlands, Graves. Lectures and field work.

(Elective in I, all groups; C).

304. *Principles of Forestry.* (2-2).

This course is intended to give the student a general knowledge of forestry, tracing its history from the beginning in European practice to the United States and following its development in this country. In addition, the course consists of a general survey of the fundamental principles underlying forestry, including the relation of forests to soil, moisture, light, and climatic conditions; influences of forests upon stream flow; the important systems of treating woodlands practiced in Europe and in the United States; the habits of important economic timber trees and the character and uses of the more important woods; preparation of forest maps and working plans; methods of estimating standing timber and measuring its growth by the use of various forest instruments; artificial regeneration of forests by seeding and planting, and the best trees for ornamental and shelter-belt planting; effects of forest fires and the study of other important enemies of the forest; a brief treatise on the timber regions of the United States; the amount of standing timber and the consumption of timber; the practice of forestry by the government, particularly on its national forests, and the present status of forestry in the States and among private owners of timber land.

Text: Elements of Forestry, Moon and Brown.

(Elective in I, all groups; C).

DEPARTMENT OF GEOLOGY

PROFESSOR RANDOLPH, ASSOCIATE PROFESSOR F. A. BURT.

201. *Physical Geography.* (2-2).

Outstanding physiographic processes and resultants; geographical features of the earth as a member of the universal family; oceanography; relief operations; atmospheric agents and resultants; and the relations

of these various physiographic influences upon life forms and human welfare.

Laboratory exercises appropriate to these lines of thought are followed out in as thorough manner as time will allow.

Prerequisite: Chemistry 103, 104.

Laboratory fee, \$1.00.

(Elective in X).

202. *Industrial and Commercial Geography.* (2-2).

Humanity in action, as influenced by natural environment and necessity of commerce and industry. In addition to regional knowledge, descriptive and statistical data of ports, trade routes, and economic reasons of size and greatness of such are considered in detail. Various types of geographical industry are discussed from the standpoint of cause and results.

Laboratory exercises suited to the content of the course.

Prerequisite: Geology 201.

Laboratory fee, \$1.00.

(Elective in X).

209. *General Geology.* (3-2).

A critical introduction to dynamical, structural, and historical geology. The dominant geologic processes, together with their resultants, are emphasized. A general working knowledge of the economic and the other associated phases of geology is presented.

The laboratory work includes the megascopic identification of the more common rock-forming minerals and representative members of the common rock groups; introductory map reading; and occasional field excursions.

Laboratory fee, \$1.50.

Prerequisite: Chemistry 101, 102.

(Required in I).

210. *Agricultural Geology.* (2-2).

This specialized phase of geology is a natural outgrowth of facts and materials that are treated in general geology above. The general principles of physical and structural geology are emphasized with special reference to disintegration and decomposition. Much attention is devoted to such topics as these: structure, composition, formation, association, soil values, and other characteristics of rocks and rock forming minerals; the principles of rock-weathering and soil formation; physiographic conditions and processes; erosion, drainage, etc. These topics are treated in such a manner as to relate and properly interpret geology and agriculture.

In the laboratory attention is given to the comparison, composition, and agricultural value of minerals and rocks; the study of maps and models; supplemental study with stereoscopes, etc.

Laboratory fee, \$1.50.

Prerequisite: Geology 209.

(Elective in I).

212. Introductory Soil Geology. (3-2).

The object of this course is to present a concise treatment of the primary fundamentals necessary for teachers who wish to offer work in soil geology and as preparatory work to courses in soils. The first several lectures are devoted to general geology principles and terms. Regular class study is directed along the following lines: the origin, mineralogical composition, distribution, transportation, and fixation of soils; geologic agents such as water, wind, ice, vulcanism, organism, etc.; the influence of rock texture and structure in soil formation; also a consideration of the part played by earth relief.

In laboratory work, careful attention is given to the study and ready identification of the representative, rock-forming minerals, not simply as such but with special reference to their soil values. Among the minerals studied are those with natural fertilizer, aeration, and percolation qualities. The mineralogic composition, texture, structure, and occurrence of the common soil-forming rocks are studied also. Models and regional maps are used for illustrative purposes.

Laboratory fee, \$1.50.

(Required in XII).

301. General Geology. (3-2).

Same as course 209.

Laboratory fee, \$1.50.

Prerequisite: Geology 202 in X; Chemistry 102 in XV.

(Required in XV; elective in X).

302. Historical Geology. (3-2).

Same as course 410.

Prerequisite: Geology 301.

Laboratory fee, \$2.00.

(Elective in X).

306. General Geology. (3-3).

Necessarily some phases of this course are similar to fundamentals in course 209; but special attention is given to paving the way for students who will pursue course 409. Critical study is made of structural, dynamic, and metamorphic agencies affecting the general engineering side of geology. Each student is required to familiarize himself with the necessary vocabulary for advanced work.

The laboratory work covers the same materials as in course 209, but is intensified with map and folio readings.

Laboratory fee, \$2.00.

Prerequisite: Chemistry 101, 102.

(Required in IV, VIII; elective in IX).

401. *Mineralogy.* (1-6).

This work is designed to meet the ordinary needs of the elementary student in mineralogy, the mining engineer, the geologist, and the practical layman who may be interested in this subject.

The laboratory exercises include a careful study of a representative number of mineral types, and are both descriptive and determinative in nature. Blowpipe work, simple chemical tests, and the rudiments of crystallography are emphasized.

Laboratory fee, \$2.00.

Prerequisite: Geology 302.

(Elective in X).

402. *Economic Geology.* (3-2).

A consideration of the most common and most useful non-metals: coals, clays, building stones, calcareous materials, natural fertilizers, underground waters, etc., with special emphasis upon the geologic, geographic, and associative occurrence of these non-metallic mineral deposits; also, the production, commercial uses, and the conservation of our mineral resources.

In the laboratory work, the student gains first-hand and determinative knowledge of these resources.

Laboratory fee, \$2.00.

Prerequisite: Geology 401.

(Elective in X).

403. *Petrology.* (2-4).

In this course, petrogenesis is considered somewhat in detail. The utility and durability of various genetic rock groups are carefully considered. The areal, stratigraphic, and commercial deposits of useful rocks receive proper attention. A working knowledge of petrology is useful to field geologists, civil engineers, chemists, miners, architects, and teachers in geography and geology.

In addition to the megascopic studies in the laboratory, the students are taught the use of the petrographic microscope in section work; and they are required to do a representative amount of microscopic determinations. Report and map work are required. This course will prove of special help to any student considering either State or Federal survey work.

Laboratory fee, \$2.00.

Prerequisite: Geology ----.

(Elective in X).

404. *Petroleum Geology.* (3-3).

The purpose of this course is to present some of the more important fundamentals that are necessary for those who anticipate becoming actively engaged in prospecting, exploiting, investing, or engineering in oil and gas areas. The student's attention is directed along the following lines: general geological agencies, processes, and resultants; the

origin, composition, distribution, association, exploitation, and migration of the hydrocarbons; catchments, stratigraphy, and discovery; well decline, exhaustion, conservation; well and field technology; commercial problems, valuations, etc.

The laboratory work includes a study of rock-forming materials; mineral structures, textures, capillarity, porosity; sedimentation, sedimentaries, and metamorphism in relation to oil and gas occurrences; petroliferous materials; comparative study in well cuttings and well logs; map interpretation and construction; careful study of type areas; field excursions.

Laboratory fee, \$2.00.

Prerequisite: Geology 209.

(Elective in IV, VIII, X).

409. *Engineering Geology.* (2-2).

The theoretical side of this subject is emphasized only when necessary, but the practical side is kept prominently in the foreground because agriculture, industry, and commerce are so vitally affected by the work of the engineering geologist. Among the topics to which special attention is devoted are these: geologic agencies determining the exploitation, usability, and value of dimension stones and rough constructional materials; location, extraction, and transportation; labor problems; foundations, drainage, etc.; and the general application of geological principles to engineering problems.

The work in the laboratory pertains to intense study of the common dimension stones and other constructional materials; a rapid survey of the more important metals and non-metals; detail work on structure sheets; a study of type areas of economic importance; written reports on a comparative study of State and Federal surveys, etc.

Text: Ries and Watson's *Engineering Geology*.

Laboratory fee, \$1.50.

Prerequisite: Geology 306, Physics 203, 204.

(Required in IX, group 2; elective in IV).

410. *Historical Geology.* (3-2).

Practically the entire time is devoted to a careful consideration of the development of the earth from the beginning of geologic time to the present, with special reference to the evolution of the North American continent. Also stratigraphic principles and relationships as interpreted from the structural and fossil records of the earth. Emphasis is placed upon environmental influences and adaptability of life forms.

Text: Pirsson and Schuchert's *Historical Geology*.

Laboratory fee, \$2.00.

Prerequisite: Geology 302.

412. *General Geology.* (3-3).

Same as course 306.

Laboratory fee, \$2.00.

(Required in V).

419. *General Geology.* (3-2).

Same as course 306.

Laboratory fee, \$2.00.

(Required in IX, group 2).

DEPARTMENT OF HISTORY

PROFESSOR McDONALD.

206. *Citizenship.* (3-0).

Same as course 305.

(Required in X).

207. *Europe Since 1815.* (3-0).

The aim of this course is to help the student acquire a comprehensive view of the forces and movements of the nineteenth century which culminated in the World War in the twentieth century, including the reaction of the revolutionary and Napoleonic era, the industrial revolution, democratic reforms, nationalism, commercialism, imperialism, international rivalries, the League of Nations, and reconstruction following the World War.

(Required in X).

305. *Citizenship.* (3-0).

The purpose of this course is to prepare the students to render effectively the public services of useful citizens; by helping them acquire the common fund of political knowledge which should be the asset of all citizens; by acquainting them while in college with the political issues of the day; by grounding them in the fundamental principles of civil liberty and the rights of private property, and by helping them see how hardly democracy was won and how easily it may be lost.

(Required in XIII, XIV; elective in I).

306. *Citizenship.* (3-0).

Same as course 305.

(Required in all four-year engineering courses).

307. *Europe Since 1815.* (3-0).

Same as course 207.

(Elective in all four-year courses, except X, XI, XII, XIII).

308. Industrial History of the United States. (3-0).

In this course the industrial progress of the United States is studied. The expansion of territory, development of natural resources, growth of commerce, organization of labor and capital are considered. Contemporary industrial problems receive attention.

(Required in XIII; elective in all other four-year courses except X, XI, XII).

312. Latin-American History: (3-0).

To acquaint students with the essential facts as to the rise and progress of Latin-America, and the interdependence of the United States and the Latin-American states, is the purpose of this course. The eras of conquest, colonization, revolution, and independence; the new industrial order, intellectual development, Latin spirit and culture, and struggle for orderly government; and the growth of Pan-Americanism are studied.

(Required in XIV).

411, 412. The Outline of History. (3-0).

This course is designed to give seniors a grasp of the adventures and achievements of mankind, to enable them to adjust in proper proportion the scientific and social facts which they have already acquired, and to help them realize the position in relation to universal history which each occupies as an individual and as a member of a profession and of a nation. The course is based upon the use of a text-book, but is largely supplemented by lectures on the geological, biological, economic, agricultural, educational, and artistic phases of history. These lectures will be delivered by members of the teaching staff in various departments of the College, and the course will, therefore, be synthetic and co-operative in character.

Director of the course, Mr. Thomas F. Mayo; lecturers, President W. B. Bizzell, Dr. O. M. Ball, Dr. Mark Francis, Dr. F. B. Clark, Professor F. A. Buechel, Professor J. F. McDonald, Professor E. B. LaRoche, Mr. C. E. Friley, and Professor G. A. Geist.

(Elective for seniors in all courses).

DEPARTMENT OF HORTICULTURE

PROFESSOR KYLE, PROFESSOR POTTS, ASSOCIATE PROFESSOR HENSEL,
ASSISTANT PROFESSOR ADRIANCE, MR. COLE, MR. BRISON.

201. Plant Propagation and Orcharding. (2-2).

Lectures and recitations on the fundamental principles and methods of plant propagation, including vegetables, fruits and ornamentals. The methods of planting and managing the home orchard are also covered.

Lectures and recitations.

Practice is given in propagation of plants from seed, budding, grafting, and in planning, planting, pruning, spraying, and general care of the home orchard.

Text: Plant Propagation, Kains. Lectures.

Laboratory fee, 75 cents.

Prerequisite: Biology 101, 102.

(Required in I, XII).

202. *Vegetable Gardening.* (2-2).

Detailed instruction in planning, planting, equipping and operating vegetable gardens, with special reference to the needs of the home. Canning and storage of vegetable crops for home use also receive consideration.

Text: Garden Farming, Corbett. Lectures and references.

The practice is devoted to planning, planting and cultivating a small garden, equipping, fertilizing, spraying, harvesting, erection of hot-beds and cold frames.

Laboratory fee, 50 cents.

(Elective in I, XII, XIV; required in C, M).

303. *Principles of Fruit Production.* (3-2).

This course includes a comprehensive study of orchard management, including problems of location, soils, planting, cultivating, protection from insects and diseases, pruning, harvesting and marketing.

The laboratory work consists of the actual practice in orchard work from planting to marketing.

Text: Principles of Fruit Growing, Bailey. Lectures and recitations.

Laboratory fee, \$1.00.

Prerequisite: Horticulture 201.

(Required in I, group 9; elective in I, XII, XIV; C).

304. *Nut Culture.* (1-4).

This course includes a study of those nuts which are of the greatest economic importance. Special attention is given to the native nuts. Top-working the native pecan and hickory to improved varieties of pecans is fully discussed.

Lectures and recitations.

Practice is given in budding and grafting pecans in the nursery row; also in top-working native pecans to improved varieties by means of the patch, chip, crown budding and grafting. A systematic study is made of the standard varieties of nuts.

Laboratory fee, 75 cents.

Prerequisite: Horticulture 201.

(Elective in I, XII, XIV, C).

307. *Introduction to Landscape Art.* (2-2).

A course designed both for students specializing in Landscape Design and for those wishing a general course, sufficiently comprehensive to enable them to properly plan small home and school grounds.

Practice consists of the drawing of plans for the small home grounds, school grounds and other public and semi-public places.

Illustrated lectures, recitations and simple problems.

(Required in I, group 10; elective in I, XII, XIV).

308. *History of Landscape Design.* (2-0).

A comprehensive study of the development of landscape design.

Illustrated lectures and recitations.

(Required in I, group 10).

310. *Commercial Vegetable Production.* (2-2).

In this course a study is made of the production of vegetables for market. Consideration is given climate, soil, equipment and storage, as they affect production and marketing in Texas and other States. The chief vegetable crops receive detailed study.

Lectures and recitations.

Practice is given in the actual production, harvesting and marketing of vegetable crops.

Laboratory fee, \$2.00.

Prerequisite: Horticulture 202.

(Required in I, group 9).

312. *Vegetable Gardening.* (2-2).

Same as course 202.

Laboratory fee, 50 cents.

(Required in XV).

401. *Systematic Pomology.* (3-2).

A technical course covering deciduous fruits, their identification, classification, distribution, importance, and history, and a detailed study of the more important species and varieties.

Practice is given with such fruits as can be obtained during the season.

Laboratory fee, \$4.00.

Prerequisite: Horticulture 303.

(Required in I, group 9).

404. *Commercial Horticulture.* (2-2).

This course includes a study of the most satisfactory methods of harvesting, grading, packing, shipping, storage and selling of fruits and vegetables. Co-operative and the various other selling agencies receive attention.

Lectures and recitations.

Laboratory fee, \$2.00.

Prerequisite: Horticulture 202, 303.

(Required in I, group 9).

405. *Bush and Vine Fruits.* (2-2).

This course consists of a study of the propagation, culture, harvesting and marketing of small fruits, such as the blackberry, dewberry, strawberry, grape, etc. Attention is given to the varieties best adapted to Texas conditions.

Lectures and recitations.

Practice is given in planning, planting, pruning, spraying and general field management.

(Elective in I, XII, XIV).

408. *Floriculture.* (2-2).

This course is designed to give the student a working knowledge of the culture and use of the annuals, perennials, and bulbous plants especially adapted to our climatic conditions. Home adornment with flower beds, flower borders, window boxes, and plants for the living room is the salient thought throughout the course.

Text: White's Principles of Floriculture.

Practice is given in the growing, transplanting and care of a few of the most useful plants.

Lectures and recitations.

Laboratory fee, \$2.00.

Prerequisite: Horticulture 201.

(Required in I, group 10; elective in group 9).

412. *Horticultural By-products.* (1-4).

This course is designed to enable the grower to utilize surplus products of the orchard and garden or to save by canning the higher grades when prices are low.

Lectures and recitations.

Practice is given in the manufacture of fruit juices, preserves, jelly, soup stock, canning, and drying.

Laboratory fee, \$1.00.

(Elective in I, group 9).

413. *Seminar.* (0-2).

This course is planned to cover, by informal discussions, a large number of timely horticultural topics. Any problems the horticultural student meets may be submitted for discussion. A rather complete review of horticultural books, journals, and periodicals is made. Time is also given to the study of market and storage reports.

(Elective in I, XII, XIV).

414. *Ornamentals.* (2-2).

This course embraces a thorough study of the ornamentals adapted to Southern conditions.

Lectures and recitations.

Practice is given in the propagation and classification of ornamentals.

Laboratory fee, \$2.00.

Prerequisite: Horticulture 201.

(Required in I, group 10).

415. *Landscape Design.* (3-4).

This course gives the principles underlying Landscape Art. It also deals with the solving and drafting of problems dealing with landscape work.

Lectures and recitations.

Text: Landscape Architecture, Hubbard and Kimball.

Prerequisite: Horticulture 307, or its equivalent.

(Required in I, group 10).

416. *Landscape Design.* (3-4).

A continuation of course 415.

Text: To be assigned.

(Required in I, group 10).

417. *Civic Improvement.* (2-0).

This course includes the fundamental principles of city planning; the study of streets, sidewalks, civic centers, and the general improvement of public and semi-public properties.

Text: City Planning, C. M. Robinson.

(Required in I, group 10).

419, 420. *Experimental Horticulture.* (1-0, 0-4).

A study of research methods and the planning and execution of a project along horticultural lines. The student is expected to become thoroughly familiar with all phases of his problem and to execute the work in a creditable manner. The project statement must be submitted by December 15 and completed by commencement.

Lectures and assignments.

Laboratory fee, \$4.00.

(Elective in I, XII, XIV).

422. *Subtropical Fruits.* (3-2).

A study of all the species of subtropical fruits. Special attention is given to the growing of citrus fruits, figs, olives, dates, and other hardy varieties of tropical and subtropical fruits.

Lectures and recitations.

Practice in the study of the various fruits and in the propagation of the different species of subtropical trees. Orchard heating is given attention.

Laboratory fee, \$4.00.

(Elective in I, XII, XIV).

FOR GRADUATES.

501, 502. Advanced Fruit Growing. (3-4). Major.

This course includes an advanced study of fruit production. Special attention is given to the problems of cultivation, fertilization, pruning, thinning of fruit and protection from frost and insect pests and disease. A special study is made of the improvement of fruit by means of bud selection and breeding.

Prerequisite: Horticulture 302, 303, 401, or equivalent work.

501a, 502a. Advanced Fruit Growing. (2-4). Minor.

A modification of course 501, 502.

503, 504. Advanced Vegetable Gardening. (3-4). Major.

In this course an advanced study is made of the latest methods used in the successful production of vegetables for market and truck gardening purposes. A special study is made of the systems of irrigation. Considerable time is also devoted to a study of the more advanced methods of forcing plants for early market. This course also includes a study of the development of plants by breeding and selection.

Prerequisites: Biology 101, 102, Horticulture 202, 301, 404, 420, or equivalent work.

503a, 504a. Advanced Vegetable Gardening. (2-4). Minor.

A modification of course 503, 504.

505, 506. Advanced Landscape Art. (3-4). Major.

Advanced landscape design, including the gathering of data, making of preliminary reports, detailed working plan, specifications, including nursery list of prices, and a finished water color rendering of the problem assigned.

Prerequisite: Civil Engineering, 319, Drawing 316, Horticulture 407, 415, 416, or equivalent work.

505a, 506a. Advanced Landscape Art. (2-4). Minor.

A modification of course 505, 506.

FOR STUDENTS IN SHORT COURSES.

21. *Plant Culture and Propagation.* (2-2).

Similar to course 201, except that orcharding is omitted.

Lectures and recitations.

Practice work in the propagation of seedlings and the different forms of budding and grafting, layering, etc.

Laboratory fee, 75 cents.

Text: Principles of Plant Culture, Goff.

(Required in C).

53. *Tree and Vine Fruits.* (3-2).

A practical study is made of fruit growing. This includes the problems of planting, cultivating, pruning, harvesting and marketing.

Lectures and recitations.

Text: Productive Orcharding, Sears.

Practice is given in laying out orchards, planting, spraying, pruning, etc.

Laboratory fee, \$1.00.

Prerequisite: Horticulture 21.

(Elective in C).

60. *Pecans.* (1-4).

In this course a practical study is made of pecans, including the planting and care of trees for nursery purposes, the development of groves to improved varieties and the converting of native seedlings to improved varieties.

Lectures and recitations.

Practice is given in planting pecans and in the various forms of propagation.

Prerequisite: Horticulture 21.

Laboratory fee, 75 cents.

(Elective in C).

 DEPARTMENT OF MATHEMATICS

PROFESSOR PURYEAR, PROFESSOR R. F. SMITH, ASSOCIATE PROFESSORS
J. W. MITCHELL, HALPERIN, ASSISTANT PROFESSORS D. C. JONES,
PORTER, COX, A. D. MARTIN, MR. FRITTS,
MR. FRARY, MR. ALBRITTON.

101, 102. *Algebra.* (3-0).

A rapid review of elementary topics, followed by the study of quadratic equations, the binomial theorem, variation, the progressions, complex numbers; elementary theory of equations, logarithms, limits, undetermined co-efficients.

Review of certain topics of preceding courses.

Text: College Algebra, Rietz and Crathorne. Supplementary exercises.

(Required in all four-year engineering courses and in IX, XIII; course 101, in X).

103. *Plane Trigonometry.* (3-0).

Measurement of angles, review of logarithms, solution of right triangles, problems of heights and distances, properties of triangles, solution of oblique triangles, geometrical applications.

Text: Plane and Spherical Trigonometry, Taylor and Puryear.

(Required in all four-year engineering courses and in IX, X, XIII).

104. *Analytics.* (3-0).

The straight line, transformation of co-ordinates, circle, ellipse, parabola, hyperbola, graphs of trigonometric, logarithmic and exponential functions, tangents.

Review of certain topics of preceding courses.

Text: Analytic Geometry, Riggs. Supplementary exercises.

Prerequisite: Mathematics 101, 103.

(Required in all four-year engineering courses and in IX, XIII).

106. *Trigonometry.* (3-0).

Same as course 103.

(Required in X).

107. *Agricultural.* (3-0).

Elementary principles of arithmetic, algebra, geometry, trigonometry, with special reference to the needs of agricultural students.

Text: Mathematics for Students of Agriculture, Rasor.

(Required in I).

108. *Agricultural.* (3-0).

Same as course 107.

(Required in XIV).

118. *Solid Geometry.* (3-0).

Definitions, lines and planes in space, dihedral angles, polyhedral angles, polyhedrons, the cylinder, cone and sphere.

Text: Solid Geometry, Wentworth-Smith.

(Required as an extra study of freshmen in the School of Engineering who do not present solid geometry for admission).

203, 204. *Calculus.* (5-0).

Differentiation, limits, infinitesimals, integration, maxima and minima, areas, volumes, water pressure, work, introduction to solid geom-

etry, moment of inertia, center of gravity, radius of curvature, Taylor's theorem, elementary examples of differential equations.

Review of certain topics of preceding courses.

Text: Calculus, March and Wolff. Supplementary exercises.

Prerequisite: Mathematics 104.

(Required in III, IV, V, IX, group 2).

205. *Calculus.* (5-0).

A modification of courses 203, 204.

Text: Calculus and Graphs, Passano.

Prerequisite: Mathematics 102, 103.

(Required in VI, VIII, XV).

303, 304. *Calculus.*

Same as courses 203, 204.

(Elective in X).

DEPARTMENT OF MECHANICAL ENGINEERING

PROFESSOR FERMIER, PROFESSOR H. E. SMITH, ASSOCIATE PROFESSOR
MERCER, ASSISTANT PROFESSORS HUTTON, PETERSON, MILTON,
CRAWFORD, MR. CHAPPELLE, MR. DOWNARD, MR. KUNZ,
MR. LAURSEN, MR. BETTIS.

101, 102. *Elementary Mechanics.* (1-0).

The work of this course consists of lectures, quizzes, and problems involving those principles of mechanics which are more commonly used in all branches of engineering and gives the student some contact with elementary engineering work.

Each student is required to keep a notebook for the special problems, which are numerous.

Text: Special pamphlet.

Prerequisite: Mathematics 103.

(Required in courses III, IV, V, VI, VIII, XIII, XV).

103. *Woodwork.* (0-3).

Shop practice in the use of the common bench tools and power machinery for working in wood, as applied to joinery, elements of construction, and cabinet making. Practice in the use of shop records, systems, etc., is also given. Special work is provided for those who have had manual training before entering.

Laboratory fee, \$1.50.

(Required in courses III, IV, V, VI, VIII, XIII, XV, M).

104. *Forging.* (0-3).

Shop practice in the use of blacksmith and general forge tools in the working of iron and steel. Also tempering, annealing, welding, case-hardening, etc.

Laboratory fee, \$1.50.

(Required in courses III, IV, V, VI, VIII, XIII, XV, M).

NOTE.—Courses 103 and 104 together constitute a year's work, three hours a week. Students taking this work will be divided into two groups at the beginning of the first term; one group will begin with course 103 and the other with course 104. At the beginning of the second term the groups will each change to the other work.

201. Pattern Making and Foundry Work. (0-3).

Shop practice in pattern making, molding, and casting in iron, brass, etc.

Laboratory fee, \$2.00.

Prerequisite: Mechanical Engineering 103.

(Required in III, V, XIII).

202. Pattern Making and Foundry Work. (0-3).

A continuation of course 201.

Laboratory fee, \$1.50.

(Required in III).

205. Elementary Steam Engineering. (2-0).

This course aims to give the student such a knowledge of steam power plant equipment as will enable him to understand the operation of the same, and serve as a foundation for subsequent study and calculation along these lines. Valve gears, valve diagrams, and indicator practice are also included.

Text: Elementary Steam Engineering, Spangler.

Prerequisite: Mathematics 103, Mechanical Engineering 101, 102.

(Required in IV, VI, XIII).

206. Steam Engineering. (4-3).

An elaboration of course 205, with practice in mechanical engineering laboratory and power plant.

Laboratory fee, \$1.00.

Text: Heat Engines, Allen and Bursley.

Prerequisite: Mathematics 203 or 205.

(Required in VIII).

207. Kinematics. (2-2).

Without taking account of the strength of the structure, this course takes up the study of motion, velocity ratios, comparative forces, etc., in machines and their elemental parts.

Text: Mechanism, Keown.

Prerequisite: Mathematics 104.

(Required in III).

208. *Kinematics.* (2-2).

The same as course 207 with specially chosen problems.
(Required in VI).

209. *Machine Shop.* (0-3).

Same as course 309.
Laboratory fee, \$1.50.
(Required in XV).

212. *Engineering Mechanics.* (3-0).

A study of pure mechanics as the foundation principles involved in the analytical solution of problems concerning the statics and dynamics of a material point and of a rigid body; with numerous numerical examples from practical engineering questions.

Prerequisite: Mathematics 203, Mechanical Engineering 101, 102.
Must be preceded or accompanied by Mathematics 204.
(Required in III).

214. *Machine Shop Practice.* (0-3).

A modification of course 309, 310.
Laboratory fee, \$1.50.
(Required in V).

302. *Steam Engines and Boilers.* (5-0).

A study of fuels; combustion; the generation of steam; the construction, operation, care, design and testing of boilers of various types, together with the design of chimneys and other means of producing draft. Also a study of the elementary thermodynamics of heat engines, the mechanics, construction, design, operation and testing of the steam engine.

Text: Heat Engines, Allen and Bursley.

Prerequisite: Mathematics 204, Chemistry 101, 102, Physics 203, 204.
(Required in V).

303, 304. *Machine Design.* (0-3, 0-4).

This course consists of practice in the design of machine elements, and their proper representation by finished shop drawings.

Text: No text is required, but each student is required to have a Mark's handbook.

Prerequisite: Mathematics 204, Mechanical Engineering 212; must also be preceded or accompanied by Civil Engineering 305 and Mechanical Engineering 313.
(Required in III).

307. *Kinematics.* (2-2).

The same as course 207.
(Required in V).

309. Machine Shop. (0-3).

Practice in bench and machine tool work in metals. This includes chipping, scraping, filing, babbiting, pipe fitting, drilling, turning, boring, grinding, milling machine work, etc.

Laboratory fee, \$1.50.

Prerequisite: Mechanical Engineering 104.

(Required in III, VI, XIII).

310. Machine Shop. (0-3).

A continuation of course 309, including also tool making and heat treatment of steel.

Laboratory fee, \$1.50.

(Required in III, XIII).

311. Carpentry and Cabinet Making. (0-3).

This course consists of the following two lines of practice:

(a) The carpentry of wood building construction, in which are included making out bills of lumber and hardware for building, laying out rafters, stairs, etc., methods of framing, inside finish, etc.

(b) Cabinet making, including wood seasoning, accurate construction in hardwood, wood finishing, making of mill bills, also a limited amount of designing of simple cabinets.

Laboratory fee, \$2.00.

Prerequisite: Mechanical Engineering 103.

(Required in XIII).

313, 314. Engineering Mechanics. (3-0).

A continuation of course 212, including also dynamics of rotation, work, energy, friction, impact, etc.

(Required in III).

317. Engineering Mechanics. (4-0).

A modification of courses 212, 313, 314.

(Required in V).

319. Engines and Boilers. (4-0).

A modification of course 302, with the same prerequisites and text.

(Required in III).

320. Thermodynamics. (4-0).

This course embraces a study of the effects of heat upon gases, and the application of thermodynamic laws and principles to the steam engine, gas engine, hot-air engine, injectors, calorimeters, etc., together with a study of heat efficiencies of these machines and instruments.

Text: Applied Thermodynamics for Engineers, Ellis.

Prerequisite: Mechanical Engineering 319.

(Required in III).

403, 404. Engineering Laboratory. (0-4).

Instruction and practice in testing gauges, indicators, fans, pumps, boilers, engines, etc.; also a study of the actual mechanical operation of various machines.

In addition to the work with the apparatus, the students will be expected to make calculations and written reports on the investigations and the results obtained.

Laboratory fee, \$1.00 each term.

Prerequisite: Mechanical Engineering 319, 320.

(Required in III).

407. Refrigeration. (2-0).

(Required in III, group 1).

410. Gas Engines. (3-0).

The application of the principles of thermodynamics to the design of gas engines. Also a study of the different cycles, methods of governing, and some details of design construction, operation and care of various types of gas engines and other internal combustion motors.

Prerequisite: Mechanical Engineering 407.

(Required in III).

412. History and Biography. (3-0).

A study of the lives of men who have been contributors to engineering development. Also a study of the history of the development of appliances and invention in mechanical engineering.

Lectures and reference reading are the sources of material for this course, for which no text-book is required.

Prerequisite: Senior classification.

(Required in III).

414. Steam Turbines. (2-0).

A study of the types and designs of steam turbines, their efficiencies and their operation.

Text: Steam Turbines, Moyer.

Prerequisite: Mechanical Engineering 320.

(Required in III, group 1).

415, 416. Engineering Laboratory. (0-3).

A modification of course 403, 404.

Laboratory fee, \$1.00 each term.

(Required in V).

417, 418. Power Plants and Equipment. (2-4).

A study of the design of power plants, and their equipment is taken up in this course. Choice and arrangement of equipment are studied from the standpoint of economy of material and labor, as well as from the standpoint of general efficiency.

Text: Engineering of Power Plants, Fernald and Orrok.

Prerequisite: Mechanical Engineering 320.

(Required in III, group 1).

419, 420. Industrial Engineering. (3-2).

A study of the industrial plant, including building and equipment; from the standpoint of health of workers as well as from the standpoint of suitability for the industrial processes involved.

Lectures and collateral reading are the chief sources in this course. Practice will include reports, also detailed sketches and drawings covering definitely chosen conditions.

Prerequisite: Senior classification.

(Required in III, group 2).

421, 422. Methods and Management. (2-0).

A study of the general principles of shop management and shop methods as used in plants and factories whose output is largely the product of machine tools and similar equipment.

(Required in III, group 2).

423, 424. Transportation. (2-0).

A study of general means of transportation from the standpoint of commerce as well as the conveying of materials in industrial plants and in construction work.

Lectures and collateral reading are the sources of subject matter for this course.

Prerequisite: Senior classification.

(Required in III, group 3).

425, 426. Railway Mechanical Engineering. (2-4).

A study of types and the design of railway rolling stock and a study of locomotive performance.

Prerequisite: Mechanical Engineering 319.

Laboratory fee, \$1.50 each term.

(Required in III, group 3).

NOTE.—Courses 423, 424, 425, 426 are not at present available.

FOR STUDENTS IN SHORT COURSES.

21, 22. Power and Heat. (4-0).

A study of shop mathematics, elementary mechanics, and the fundamentals of fuels, and heat as a source of power.

(Required in H, N).

25. Forging. (0-4).

A modification of course 104.

Laboratory fee, \$1.50.

(Required in H, N).

26. *Woodwork. (0-4).*

A modification of course 103.
Laboratory fee, \$1.50.
(Required in H, N).

61, 62. *Foundry and Machine Shop. (0-3).*

A modification of course 309, 310.
Laboratory fee, \$1.50 each term.
Prerequisite: Mechanical Engineering 25, 26.
(Required in H, N).

63, 64. *Engineering Laboratory. (0-3).*

A modification of course 403, 404.
Laboratory fee, \$1.00 each term.
(Required in N).

65, 66. *Shop Methods. (3-2).*

(Required in N, group 2).

71, 72. *Foundry and Machine Shop. (0-5).*

A modification of courses 309, 310, and 201.
Laboratory fee, \$2.00 each term.
(Required in N).

75, 76. *Steam Engines and Boilers. (4-0).*

A modification of course 302, with special emphasis on the practical work.
Prerequisite: Mechanical Engineering 21, 22.
(Required in H, N).

DEPARTMENT OF MILITARY SCIENCE AND TACTICS

PROFESSOR: MAJOR DOUGHERTY. PROFESSORS: MAJOR MORRIS, MAJOR RUSSELL, MAJOR DAVIS, CAPTAIN KURTZ. ASSISTANT PROFESSORS: CAPTAIN DEROHAN, CAPTAIN LAWRENCE, CAPTAIN FITZGERALD, CAPTAIN TUTTLE, CAPTAIN TARBOX, CAPTAIN WILSON, FIRST LIEUTENANT SEARIGHT, FIRST LIEUTENANT RUTH.

INFANTRY UNIT.

ASSISTANT PROFESSOR W. H. H. MORRIS, JR., *Major of Infantry.*
ASSISTANT PROFESSOR F. J. DEROHAN, *Captain, Infantry.*
ASSISTANT PROFESSOR J. O. TARBOX, *Captain, Infantry.*
ASSISTANT PROFESSOR A. L. TUTTLE, *Captain, Infantry.*
ASSISTANT PROFESSOR H. S. RUTH, *First Lieutenant, Infantry.*

101. (1-2).

- (a) Theoretical: Military organization; military courtesy and discipline; infantry drill.
- (b) Practical: Physical training; infantry drill.

102. (1-2).

(a) Theoretical: Infantry drill; guard duty; personal hygiene, sanitation and first aid; military ceremonies.

(b) Practical: Physical training; infantry drill; guard duty; bayonet exercises; preliminary target practice; gallery practice; rifle practice; military ceremonies; field maneuvers.

201. (1-2).

(a) Theoretical: Infantry drill (school of the company); military sketching and map reading.

(b) Practical: Infantry drill; physical training; machine guns; automatic rifles.

202. (1-2).

(a) Theoretical: Military sketching and map reading; minor tactics for a non-commissioned officer.

(b) Practical: Military sketching; minor tactics; range practice; maneuvers.

301. (3-2).

(a) Theoretical: Minor tactics for a lieutenant; field engineering.

(b) Practical: Infantry drill (act as a line); physical training; pistol practice; field engineering; hand and rifle grenades.

302. (3-2).

(a) Theoretical: Minor tactics continued for a lieutenant; field engineering continued.

(b) Practical: Infantry drill (act as a lieutenant); maneuvers (act as a lieutenant); field engineering; one-pound gun; trench mortar.

401. (3-2).

(a) Theoretical: Minor tactics for a captain and field officer; military law.

(b) Practical: Minor tactics (act as a captain and field officer); physical training; musketry; infantry drill (act as a captain or field officer).

402. (3-2).

(a) Theoretical: Minor tactics for a captain and field officer; military history and policy; military administration.

(b) Practical: Minor tactics (act as a captain and field officer); musketry; infantry drill (act as a captain or field officer).

ARTILLERY UNIT.

PROFESSOR: MAJOR L. R. DOUGHERTY.

ASSISTANT PROFESSORS: CAPTAIN R. W. WILSON, FIRST LIEUTENANT
H. F. SEARIGHT.

103. (1-2).

(a) Theoretical: Field artillery drill regulations and field gunnery. The elements of the trajectory and the calculation of the same, gunners' instruction, calculation of firing data.

(b) Practical: School of the soldier, school of the squad, battery foot drill, standing gun drill, the firing battery; interior guard duty; manual of the pistol.

104. (1-2).

(a) Theoretical: Field artillery ordnance. Guns, ammunition, sights, fire control instruments, telephones, projectors, etc., types, construction, mechanical principles, designs, use and care.

(b) Practical: Use and care of individual equipment. Cannoneers' instruction in the service of the piece, and preparation for gunners' examination.

203. (1-2).

(a) Theoretical: Military science. Artillery trucks and tractors, gas engines, design, operation and care.

(b) Practical: Equitation, the soldier mounted. Care and management of the horse.

204. (1-2).

(a) Theoretical: Field artillery topography and reconnaissance.

(b) Practical: Draft and driving, the battery mounted. Occupation of position.

303. (3-2).

(a) Theoretical: Field artillery gunnery and firing.

(b) Practical: The battery mounted. Hippology and stable management. Conditioning and training of the artillery horse.

304. (3-2).

(a) Theoretical: Field artillery tactics. Organization, communication and field engineering.

(b) Practical: Smoke bomb practice. Reconnaissance.

403. (3-2).

(a) Theoretical: Military history and policy of the United States. Minor tactics and map maneuvers.

(b) Practical: Duties of the officers of field artillery in the battery, battalion and regiment, mounted. Smoke bomb practice. Training as instructors.

404. (3-2).

(a) Theoretical: Military law. Administration and army paper work.

(b) Practical: Same as 403 (b).

SIGNAL CORPS UNIT.

PROFESSOR: CAPTAIN LAWRENCE A. KURTZ, *Signal Corps*.

105. (1-2).

(a) Theoretical: Organization of army, hygiene, first aid, military courtesy, interior guard duty, infantry drills, automatic pistol.

(b) Practical: Drill, visual signalling.

106. (1-2).

(a) Theoretical: Lectures in military and commercial telephone line construction.

(b) Practical: Drill, international code, message sending by telegraph, telegraph operating, commercial and military telephone line construction.

205, 206. (1-2).

(a) Theoretical: Lectures in army organization, lines of communication, military telephones, map reading and making and technical equipment used by Signal Corps.

(b) Practical: Drill, projector signalling, visual signalling, field buzzer, telephones, military map making, construction of telephone lines, operation of switchboards, radio telegraph operation in the field.

305, 306. (1-2, 0-2).

(a) Theoretical: Drill, minor tactics of line troop, field engineering, organization and tactics of all arms to include division signal tactics, military law and rules of land warfare, message centers, codes and ciphers.

(b) Practical: Putting the above theoretical work into field practice. In addition to the above the student must complete Electrical Engineering 309 and 310.

(Elective in V).

405, 406. (0-2, 1-2).

(a) Theoretical: Military history and policy of the United States, administration, hippology, staff organization and duties, telephone net construction.

(b) Practical: Handling of organizations in practical signal corps field duty, technical and tactical operation of radio telegraph and technical operation of radio telegraph and telephone ground radio, telephones.

In addition to the above the student must complete Electrical Engineering 409 and 410.

(Elective in V).

CAVALRY UNIT.

PROFESSOR: MAJOR J. F. DAVIS, *Cavalry*.

ASSISTANT PROFESSOR: CAPTAIN J. O. LAWRENCE, *Cavalry*.

ASSISTANT PROFESSOR: CAPTAIN H. J. FITZGERALD, *Cavalry*.

107. (1-2).

(a) Theoretical: Organization and administration; military hygiene; first aid; sanitation; military courtesy and customs; cavalry drill regulations to include the school of the troop; interior guard duty; signalling; care of animals and equipment.

(b) Practical: Organization of a unit; exercise in first aid; camp site selection and expedients, sand table; performance of guard duty; signalling drills; cavalry drill to include school of the troop; equitation; care of animals and equipment; physical training.

108. (1-2).

(a) Theoretical: Cavalry drill regulations to include school of the troop; ceremonies and inspections; cavalry weapons, pistol, saber, rifle; the cavalry pack; minor tactics; patrols; message and reports; the theory of equitation; preliminary range instruction.

(b) Practical: Cavalry drill to include the school of the troop; ceremonies and inspections; preliminary range instruction; gallery practice; range practice; the pistol, dismounted; saber exercise; patrolling, mounted and dismounted; message carrying and reports; equitation and jumping; physical training.

207. (1-2).

(a) Theoretical: Map reading and military sketching; cavalry drill, close and extended order, including school of the troop; ceremonies and inspections; cavalry combat; development and employment of cavalry; march discipline and routine.

(b) Practical: Instructors in 107 (b), 108 (b); problems in map reading; sketching; road sketch; outpost sketch; position sketch; physical training; park riding; cavalry drill to include school of the troop; equitation and jumping; ceremonies and inspections; cavalry combat (troop); practice marches.

208. (1-2).

(a) Theoretical: The cavalry pack, dismounted; cavalry weapons, rifle, pistol, automatic rifle, machine gun; cavalry drill to include school of the troop; equitation and jumping; minor tactics; covering detachments; advance flank rear guards; outposts.

(b) Practical: Instructors in 107 (b), 108 (b); cavalry drill to include school of the troop; ceremonies and inspections; cavalry com-

bat; equitation and jumping; practice marches; cavalry pack, mounted; preliminary instruction in marksmanship, gallery and range practice; the automatic rifle and machine guns; minor tactics, tactical walks, tactical exercises, physical training.

307. (3-2).

(a) Theoretical: Field engineering; park riding; cavalry drill to include school of the regiment; cavalry combat, squadron and higher units; hand and rifle grenades; trench mortar and one pounder; light artillery; equitation and jumping; ceremonies and inspection.

(b) Practical: Instructors in 107 (b), 108 (b), 207 (b), 208 (b); cavalry to include the school of the troop; military field engineering problems; cavalry combat; tactical exercises; tactical ride; hand and rifle grenades; trench mortar and one pounder; ceremonies and inspections; equitation and jumping.

308. (3-2).

(a) Theoretical: Principles in musketry; hippology; selection and care of animals; horseshoeing; cavalry drill to include the school of the troop; cavalry combat; tactical rides and exercises; equitation and jumping.

(b) Practical: Instructors in 107 (b), 108 (b), 207 (b), 208 (b); practical packing; selection and care of animals; horseshoeing; cavalry drill to include school of the troop; cavalry combat; Tactical Rides and exercises; equitation and jumping.

407. (3-2).

(a) Theoretical: Military history and policy of the United States; cavalry drill, including school of the regiment; military law and rules and land warfare; equitation and jumping; ceremonies and inspections.

(b) Practical: Instructors in 107 (b), 108 (b), 207 (b), 208 (b); cavalry drill to include school of the troop; cavalry combat; tactical walks and exercises; park riding; practical packing; ceremonies and inspections.

408. (3-2).

(a) Theoretical: Minor tactics; field service regulations; map maneuvers, relief maps, sand table problems; administration; packing and transportation; cavalry drill, including school of the regiment; field exercises; advanced equitation.

(b) Practical: Instructors in 107 (b), 108 (b), 207 (b), 208 (b); leaders in tactical exercises; tactical leaders; participation in tactical exercises as leaders; cavalry combat; ceremonies and inspections; cavalry drill to include school of the troop; advanced equitation; practical packing.

AIR SERVICE UNIT.

PROFESSOR: C. W. RUSSELL, *Major, Air Service.*109, 110. *Elementary Subjects of Military Training. (1-2).*

(a) Theoretical: Organization and administration of company and squadron; duties of commanders; military hygiene; first aid and sanitation; military courtesies and customs of the service; interior guard duty; infantry drill; nomenclature, care and handling of pistol and rifle; communications, visual signalling and buzzer; elementary electricity and radio; construction and operation of telephone lines; history of aeronautics; employment of air service, air service organization.

(b) Practical: Organizing the unit, assignment of leaders; first aid demonstrations; performance of guard duty; infantry drill; rifle and pistol practice; visual signalling and buzzer.

209, 210. (1-2).

(a) Theoretical: Military sketching and map reading; infantry drill, principles of leadership; air service weapons, automatic rifle and aerial machine guns; aerial sights and principles of aerial gunnery; synchronized gears; minor tactics, patrolling maneuvers, messages and reports, outposts and covering detachments; communications, radio operations section; assembly of radio sets.

(b) Practical: Map sketching, infantry drill; machine gun, rifle and pistol firing; nomenclature and stripping of machine guns; problems in minor tactics; radio.

309, 310. (3-2).

(a) Theoretical: Field engineering, construction of trenches and obstacles; minor tactics, offensive and defensive, conduct of small units; artillery and infantry liason; radio aerial photography, types of cameras, interpretation of aerial photographs, map making from aerial photographs; aeronautical engines, principles of engines, carburetors, ignition, lubrication, cooling, trouble shooting, types of engines; aerial gunnery; aerial bombing.

(b) Practical: Trench construction; map maneuvers; radio practice; construction of mosaic from aerial photographs; assembling aeronautical engines, engine running.

409, 410. (3-2).

(a) Theoretical: Military history and policy of the United States; development of aeronautics; military law and rules of land warfare; administration of the squadron; advanced radio communications; aerial navigation and meteorology; air service organization, operations, aerial tactics, bombardment, pursuit and attack duties of air service officers; methods of teaching flying, airplanes, theory of flight, nomenclature, rigging, repair of machines; airplane instruments; types of airplanes.

(b) Practical: Radio communications; aerial navigation; rigging, repair of machines, engine running.

FOR STUDENTS IN SHORT COURSES.

Infantry.

11, 12. (1-2).

Same as courses 101, 102.

51, 52. (1-2).

Same as courses 201, 202.

Field Artillery.

13, 14. (1-2).

Same as courses 103, 104.

53, 54. (1-2).

Same as courses 203, 204.

Cavalry.

17, 18. (1-2).

Same as courses 107, 108.

57, 58. (1-2).

Same as courses 207, 208.

DEPARTMENT OF MODERN LANGUAGES

PROFESSOR CAMPBELL, ASSISTANT PROFESSOR WOODFORD.

In beginning courses a thorough drill in pronunciation, the essentials of grammar, and colloquial exercises is given through daily oral and written exercises. The reading of simple texts is taken up as early as possible.

The work of the advanced courses consists in the reading of selected texts and magazines, with incidental grammar review and drill in the use of colloquial idioms. Short dictation exercises are frequently given. Special stress is laid upon sight reading. Parallel reading of from 150 to 300 pages of selected prose works is required. In French and German, the reading is gradually adapted to the scientific work of other departments; the texts read in Spanish are literary and commercial.

The work in modern language is elective in all four-year courses, as shown under the several curricula, except in course IX, group 1.

311, 312. (3-0).

Grammar and easy reading.

(Required in IX, group 1).

313, 314. *German.* (3-0).

Grammar and easy reading.

315, 316. *Spanish*. (3-0).

Grammar and easy reading.

421, 422. *French*. (3-0).

Reading of scientific and other texts. Parallel reading.
(Required in IX, group 1).

423, 424. *German*. (3-0).

Reading of scientific and other texts. Parallel reading.

425, 426. *Spanish*. (3-0).

Reading of selected texts; composition; conversation. Parallel reading.

426b. *Spanish*. (3-0).

Commercial Spanish; reading of commercial and technical texts and periodicals; social and commercial correspondence.

Prerequisite: Course 425 or equivalent.

NOTE.—Courses 211, 212, 213, 214, 215, 216, elective in course X, are the same as 311, 312, 313, 314, 315, 316, respectively.

DEPARTMENT OF PHYSICS

PROFESSOR SILVEY, ASSISTANT PROFESSORS VEZEY, LACKEY, SANDERS,
MR. RAY, MR. ROBERTS, MR. ALBRITTON.

103, 104. *College Physics*. (3-2).

A general course in physics for students in general science courses and those preparing to enter a medical school.

This course includes the mechanics of solids, liquids and gases; and the phenomena of heat, light, sound, electricity and magnetism. Instruction is given by recitations, quizzes, problems and demonstrated lectures. Emphasis is laid upon the fundamental principles rather than the mathematical processes involved.

The practice includes about thirty experiments in the subjects named above.

Laboratory fee, 50 cents each term.

Text: Anderson's Physics, or equivalent.

Prerequisite: See entrance requirements.

(Elective in X).

111, 112. *Agricultural Physics*. (2-2).

This course includes the phenomena of mechanics, heat, magnetism, current electricity and light that have application in the study of agriculture and agricultural engineering. Instruction is given by recitation, quizzes, problems and demonstrated lectures.

The practice includes measurements involving the laws of concurrent forces, moments, simple machines, specific gravity, calorimetry, current electricity, and the use of lenses in the common optical instruments.

Laboratory fee, 50 cents each term.

(Required in XI, and of students of agriculture not presenting physics for entrance).

201, 202. General Physics. (3-3).

A course of selected topics in mechanics, properties of matter, sound, light, electricity and magnetism for students of general science who elect physics as a major. The work is essentially descriptive, but the simpler mathematical applications involving algebra, trigonometry and geometry are studied.

Laboratory fee, \$2.00 each term.

Prerequisite: Physics 103, 104, and Mathematics 101, 106.

(Elective in X).

203, 204. General. (3-3).

A general course in mechanics, heat, light, electricity and magnetism for engineering students.

In this course particular stress is laid on the derivation of the various formulas necessary for a thorough understanding of the mathematical relations existing in physical determinations. Much emphasis is placed on practical problems furnished by the instructors.

The practice includes about thirty experiments in the subjects named above. The work is, in general, quantitative.

Laboratory fee, \$1.00 each term.

Text: Reed and Guthe's College Physics.

Prerequisite: Mathematics 101, 103. (See Entrance Requirements).

(Required in all engineering courses except V).

207, 208. General. (3-2).

This course is identical with course 203, 204, with the omission of electricity and magnetism.

Laboratory fee, \$1.00 each term.

Prerequisite: Mathematics 101, 103. (See Entrance Requirements).

(Required in V).

301, 302. Heat and Properties of Matter. (3-3).

A course for students in undergraduate study or for graduate students of other departments who may take this course as partial fulfillment of a minor in physics.

This course includes a discussion of universal gravitation, elasticity, surface tension, diffusion, viscosity, mechanics of fluids, laws of heat transfer, kinetic theory, critical points, isothermal and adiabatic changes and the thermodynamics of changes of state and radiation.

The work is more descriptive than mathematical, but ample opportunity is offered to study the application of the calculus to physics.

Laboratory fee, \$2.00 each term.

Text: Properties of Matter; Heat, Poynting and Thompson, or equivalents.

Prerequisite: Physics 201, 202, 203, 204 or 207, 208, and Mathematics 203, 204.

(Elective in X).

305. *Light.* (2-0).

A course for students in undergraduate study or for graduate students of other departments who may take this course in partial fulfillment of the requirement of a minor in physics.

This course includes a discussion of the wave theory of light, optical instruments, dispersion, spectroscopy, aberrations, refraction, interference, diffraction, polarization, double refraction and theories of refraction and reflection.

The treatment is non-mathematical.

Text: Edser's *Light for Students*, or its equivalent.

Prerequisite: Physics 201, 202, 204 or 207.

(Elective in X).

307, 308. *Experimental Physics.* (0-4).

A laboratory practice course to supplement any of the courses in theoretical physics.

The experiments performed are illustrative of the theory being discussed in the theoretical course. It is intended that this course will develop laboratory technique preparatory to research work.

Manual: Watson's *Practical Physics*, or its equivalent.

This course must be preceded by, or taken in parallel with one of the courses in theoretical physics.

Laboratory fee, \$2.00 each term.

(Elective in X).

401, 402. *Optics; Electricity and Magnetism.* (3-3).

A course for physics students in undergraduate study or for graduate students of other departments who may take this course as a partial fulfillment of a minor in physics. This course includes a discussion of periodic motion, wave motion, the nature and propagation of light, interference, diffraction, theory of optical instruments, polarization, magnetism, magnetic induction and potential, current electricity, electrostatic induction and potential, electromotive forces, thermal effects, photoelectricity, electro-magnetic induction and electro-magnetic theory.

Laboratory fee, \$2.00 each term.

Texts: *Optics*, *The Theory of Optics*, Part I (Schuster), or equivalent; *Magnetism and Electricity* (Poynting and Thomson), or equivalent.

Prerequisite: Physics 201, 202 or 203, 204 and Mathematics 203, 204.

(Elective in X).

403, 404. *Kinetic Theory; Electron Theory.* (3-0).

This course includes a study of gas pressure, speeds of gaseous molecules, Boyle's law, determination of the gas constant, the law of Gal-Lussac, Graham's law, law of diffusion, the mean free path, viscosity, Maxwell's distribution law, the phenomenon of conductivity of electricity through gases, mobility and diffusion of gaseous ions, measurement of the elementary charge, ratio of charge to mass of ions, positive ions, photo-electric action, Brownian movements.

Prerequisite: Physics 301, 302 and Mathematics 203, 204.
(Elective in X).

FOR STUDENTS IN SHORT COURSES.

11, 12. *Elementary.* (2-2).

Lectures, recitations, problems, and demonstrations in elementary mechanics, heat, sound, light, electricity and magnetism. The nature of the theory is indicated by the outline of the practice.

The practice includes measurements of precision with vernier and micrometer calipers and balances; curve plotting; accurate determination of length, volumes, densities, forces, moments, stress, expansion, heat exchange, refraction and reflection of light by various forms of lenses and mirrors; velocity of sound and the laws of vibrating strings; measurements of voltage, current, and resistance.

Multiple sets of apparatus permit laboratory experiments to be run parallel to the lectures and recitations.

Laboratory fee, 50 cents each term.

Text: Practical Physics, Millikan and Gale.

(See Entrance Requirements).

(Required in H, N).

DEPARTMENT OF RURAL SOCIOLOGY.

PROFESSOR GARNETT.

201. *Social Origins and Social Evolution.* (2-0).

This course traces the origin and development of the more important social and industrial customs, beliefs, practices and institutions. The social responsibility of institutions and the consequences of their failure to measure up to their obligations or to adapt themselves to changed conditions are also considered.

Text: Introduction to the Study of Social Evolution and Social Economy, Chapin.

(Elective in XIV, group 3).

310. *Rural Organizations.* (2-2).

After analyzing the community interest needing organized effort—economic, civic, educational, social and religious—and determining the

scale on which it is desirable to deal with each, a study is made of the historic development, activities, relationships, and plan of work of the various types of organizations found in different parts of the country. The principles basic to successful organization are then formulated. Methods of developing organization leaders and gaining community support are outlined. Especial attention is given to the organization problems of the county agent, the agricultural teacher and other community workers. Each student is expected to work out detailed plans for some type of organization in which he is interested.

Text: To be selected.

(Required in XIV).

311. Social Psychology. (3-0).

The factors effecting group behavior together with methods of social control constitute the main theme of this course. The forces and influences which determine the mental attitudes of country people are analyzed. The connection between a good understanding of the social mind and successful organizational effort is shown and methods of dealing with the problems involved are developed. The many questions related to public opinion are given attention.

Text: Social Psychology and Social Control, Ross.

(Required in XIV).

312. General Sociology. (3-0).

This course analyzes the forces and processes determining the complexion of modern society; studies the principles basic to desirable social policies, and considers in detail some of the more outstanding present-day social problems.

Text: Principles of Sociology, Ross.

(Required in XIV, group 3).

404. Agricultural Organization. (2-2).

Described in the 45th Catalogue.

(Required in XIV, sessions 1922-23, 1923-24).

407. Rural Sociology. (2-2).

This course first analyzes the conditions, forces and agencies influencing the life of the country dweller and the country community. A detailed study is then made of a number of special problems related to the social side of country life, such as: population questions; cityward drift; town and country relationships; rural health problems; recreation; rural leadership; community organizations, and community planning. Attention is also given to the social problems connected with the home; the school; the church; the press and other social institutions.

Text: To be selected.

(Required in XIV).

408. *Rural Sociology.* (2-2).

Same as course 407.

(Required in I).

409. *The Family.* (2-0).

After considering the importance of the family as a social institution and noting the outstanding problems of the rural home, the influences tending to undermine family life and constructive measures for overcoming these influences are studied. Problems of child welfare are emphasized.

Text: To be selected.

(Elective in XIV, group 3).

410. *Community Development and Community Planning.* (1-4).

In this course each student is expected to select some area in which he is interested (community, county or town) and make an analysis of all obtainable facts regarding the existing situation. Then, after familiarizing himself with the best examples of community development in the country, with the actual situation in mind, he is expected to work out a long time program for promoting the best community life in the area chosen. Practical, workable plans for putting his program into operation are required. Some field work may be called for.

Text: To be selected.

(Required in XIV, group 3).

411. *Social Psychology.* (3-0).

Same as course 311.

(Required in X).

412. *General Sociology.* (3-0).

Same as course 312.

(Required in X).

413. *Social Pathology.* (2-0).

In this course questions causing pathological social conditions are considered. Measures of dealing with and caring for unsocial and dependent groups are studied. The whole subject is approached from the rural viewpoint.

Text: Poverty and Dependence, Gillin.

(Elective in XIV, group 3).

414. *Group Relationships.* (2-0).

This course studies the problems involved in the relationships of various social groups, such as: the landlord and tenant; the white and

the negro; the foreign born and native; town and country dwellers. The relationships of different types of organization groups will also be considered.

Text: To be selected.

(Required in XIV, group 3).

415. *Agricultural Journalism.* (2-2).

The objectives of this course are to familiarize the student with the best principles of newspaper writing and especially the preparation of material for agricultural papers and country weeklies. The part a county paper should play in community development is stressed.

Text: To be selected.

(Required in XIV, group 3).

416. *Agricultural Journalism.* (1-4).

A continuation of course 415. In this course additional practice in the preparation of articles for agricultural and country papers is given. News campaigns for special objectives are planned. The business side of conducting a paper receives attention.

Courses 415 and 416 to be given in co-operation with the English Department and the agricultural editors of the Extension Division and the Experiment Station.

(Elective in XIV, group 3).

FOR GRADUATES.

501, 502. *Advanced Rural Sociology.* (3-4). *Major.*

In this course each student selects some special rural social problem for intensive study. Methods of social investigation receive attention. Some field work is required.

501a, 502a. *Advanced Rural Sociology.* (2-4). *Minor.*

A modification of course 501, 502.

503, 504. *Country Life Tendencies.* (3-4). *Major.*

In this course a critical study is made of some of the most important tendencies now apparent in country life.

503a, 504a. *Country Life Tendencies.* (2-4). *Minor.*

A modification of course 503, 504.

DEPARTMENT OF TEXTILE ENGINEERING.

PROFESSOR BAGLEY, ASSOCIATE PROFESSOR DOWD,
ASSISTANT PROFESSOR LICHTÉ.

101, 102. Cotton Classing. (0-2).

This course includes practice in grading and stapling cotton, the methods of handling the crop from the field to the mill, and other subjects of general interest to a cotton student are presented in lecture form.

Laboratory fee, 50 cents each term.
(Required in I, XII, C).

207. Weaving. (0-3).

Practice in operating plain looms.
(Required in VI).

206. Yarn Manufacture. (0-3).

Practice in operation of the machinery used in the manufacture of cotton yarns.
(Required in VI).

301, 302. Yarn Manufacture. (4-3, 3-2).

Recitations on the machinery and processes in the manufacture of coarse cotton yarns. Instruction is given with a view of imparting a general knowledge of the machinery and processes, including the study of the raw material; mixing; mixing machinery; construction and operation of feeder and picking machinery, carding, drawing, slubbing, roving, ring spinning, spooling, reeling, and twisting; calculations to determine the necessary gearing to produce given numbers, speeds and production.

Texts: Cotton Mill Processes and Calculations, Tomkins; International Library of Technology, Vol. 76.
(Required in VI).

303, 304. Fabric Designing. (0-3).

This course includes the classification of fabrics; the elementary principles of fabric structure; the explanation of various technical terms applied to designs and fabrics; the representation of drawing-in drafts and harness chains; the design of fancy shirting, madrasés, and dress goods, etc.
(Required in VI).

305, 306. Weaving. (3-3, 0-4).

Continuation of course 204, together with fixing dobbies and Jacquards and the taking to pieces and rebuilding of looms.

Text: International Library of Technology, Vol. 80.

Prerequisite: Textile Engineering 204.

(Required in VI).

401, 402. *Yarn Manufacture.* (0-2, 3-3).

Recitations and lectures; a continuation and more exhaustive treatment of the subjects of course 301, 302. In addition, the study of warp preparation and of the machinery necessary for the manufacture of fine cotton yarns, including the sliver lap machine, ribbon lay machine and comber, and a study of the spinning mule, organizations for the manufacture of all classes of yarns and the preparation of fancy warps.

Text: International Library of Technology, Vol. 77.

Prerequisite: Textile Engineering 302.

(Required in VI).

404. *Fabric Analysis.* (1-0).

Dissection of small samples with a view of reproducing them.

Prerequisite: Textile Engineering 303.

(Required in VI).

405. *Sizing.* (3-0).

This course includes a thorough study of all materials used in sizing cotton yarns. The best methods of testing for adulterants commonly found in these materials are given, as are also the most modern methods of their application to the yarns. The machinery and its operation are carefully studied.

Text: Chemistry and Practice of Sizing, Bean.

(Required in VI).

407, 408. *Weaving.* (2-2, 0-4).

Recitations and lectures on the construction, operation and adjustment of leno and Jacquard machines. A study of the different "tieups" used in Jacquard weaving. Sketching the most important motions on automatic and dobby looms.

Prerequisite: Textile Engineering 305, 306.

(Required in VI).

410. *Mill Management.* (3-0).

Lectures and recitations on the general management of cotton mills, including the study of fire protection, cost of production in the various departments, labor conditions and wages, care of mill and mill village.

Texts: International Library of Technology, Vol. 78; The Cotton Manufacturing Industry of the United States, Copeland.

(Required in VI).

412. *Magazine Review.* (1-0).

Students will report in class on articles assigned them in the textile magazines.

(Required in VI).

413. *Cotton Classing.* (1-2).

Recitation and lecture on classification and stapling of cotton, buying spot cotton, papers used in the cotton trade and cotton exchanges.

Laboratory fee, 50 cents.

Text: Cotton Trade Guide and Student's Manual, Miller.

(Required in VI, XII).

415, 416. *Fabric Designing.* (0-3).

A continuation of course 304.

Prerequisite: Textile Engineering 304.

(Required in VI).

FOR STUDENTS IN SHORT COURSES.

11, 12. *Designing.* (0-3).

A modification of course 303, 304.

(Required in H).

13. *Yarn Manufacture.* (4-3).

A modification of course 201, 202.

(Required in H).

16. *Weaving.* (3-3).

A modification of course 207.

(Required in H).

51, 52. *Yarn Manufacture.* (3-2, 3-4).

A modification of course 401, 402.

(Required in H).

53, 54. *Designing.* (0-3).

A modification of course 415, 416.

(Required in H).

55, 56. *Weaving.* (3-2, 3-4).

A modification of course 407, 408.

(Required in H).

58. *Fabric Analysis.* (1-0).

Dissection of small samples with a view to the reproduction of fabric; Jacquard designing, cutting cards from original designs.

(Required in H).

61. *Cotton Classing.* (1-2).

Same as course 413.

Laboratory fee, 50 cents.

(Required in H).

DEPARTMENT OF VETERINARY ANATOMY.

PROFESSOR FRANCIS.

111. *Anatomy of the Domestic Animals.* (3-6).

This course embraces a careful study of the bones, joints and muscles.

Text: *Anatomy of Domestic Animals*, Sisson.

Laboratory fee, \$4.00.

(Required in XI).

112. *Anatomy of the Domestic Animals.* (3-6).

During this term the thoracic and abdominal viscera are studied.

Laboratory fee, \$4.00.

Text: *Anatomy of Domestic Animals*, Sisson.

(Required in XI).

211. *Anatomy of the Domestic Animals.* (3-6).

This course includes a dissection of the circulatory system, the nervous system and the organs of special sense.

Text: *Anatomy of the Domestic Animals*, Sisson.

(Required in XI).

213. *Histology and Embryology.* (2-4).

A lecture and laboratory course.

Laboratory fee, \$4.00.

Texts: *Normal Histology*, Stohr; *Embryology of the Chick and Pig*, Prentiss.

(Required in XI).

302. *Anatomy and Physiology of Domestic Animals.* (2-2).

This course is intended as an introduction to the study of veterinary medicine. It treats the fundamental processes of animal nutrition in detail, so that each student may be prepared to meet the problems that arise in the economic production of beef, pork, and dairy products.

Reference books: *Physiology of Domestic Animals*, Smith; *Veterinary Anatomy*, Sisson.

Laboratory fee, \$1.50.

(Required in I, group 5).

312. *Topographical Anatomy.* (0-6).

Prerequisite: Courses 111, 112, 211.

Text: *Topographical Dissection Guide*, Stewart.

(Elective).

FOR GRADUATES.

511a, 512a. *Veterinary Anatomy.* (2-4). *Minor.*

FOR STUDENTS IN SHORT COURSES.

52. *Animal Diseases.* (3-2).

A popular course on the common diseases of animals on the farm.

Laboratory fee, \$1.50.

Text: Principles of Veterinary Science, Hadley.

(Elective in C).

DEPARTMENT OF VETERINARY MEDICINE AND SURGERY.

PROFESSOR MARSTELLER, ASSOCIATE PROFESSOR LENERT.

305. *Animal Diseases.* (3-2).

This course is designed to give the student a working knowledge of the structure, growth and diseases of domestic animals. The anatomy and physiology of animals will be reviewed, then the remainder of the term devoted to diseases. It will be especially useful to teachers of rural schools.

Text: Principles of Veterinary Science, Hadley.

(Required in XII).

351. *Non-infectious Diseases.* (3-0).

This course consists of lectures and demonstrations on physical diagnosis.

(Required in XI).

352. *Non-infectious Diseases.* (3-0).

In this course instruction is given on diseases of the digestive, circulatory, respiratory and urinary organs.

(Required in XI).

361. *General Surgery.* (3-0).

In this course instruction is given in the principles of surgery, restraint of domestic animals, surgical diagnosis, surgical exercises and soundness.

(Required in XI).

362. *General Surgery.* (3-0).

This course is a continuation of General Surgery 361.

(Required in XI).

371. *Clinics.* (0-7).

372. *Clinics.* (0-12).

471. *Clinics.* (0-7).

472. *Clinics.* (0-7).

Hospital service is required of all students. They must give daily attention to cases assigned. In addition to hospital duty, laboratory diagnosis and post-mortem examination are required whenever necessary. An ambulatory clinic is maintained. Students will, as occasion may require, make trips to other parts of the State to observe and study outbreaks of diseases. Cases in clinic are treated under hospital conditions. When necessary they are held for observation and study; thus the student is given an opportunity to see the entire course of these diseases and the results of treatment. About fifteen hundred cases of non-infectious diseases, infectious diseases, and surgical diseases of animals and fowls are treated in clinic each year.

(Required in XI).

403. *Animal Diseases.* (3-2).

A discussion of common infectious and non-infectious diseases of domestic animals.

Text: Veterinary Medicine, Vols. 1, 2, 3, 4, 5, Law.

Prerequisite: Veterinary Anatomy 304.

(Required in I, group 5).

451. *Diseases of Small Animals and Fowls.* (3-0).

In this course special attention is given to non-infectious and infectious diseases in pet animals and domestic fowls.

(Required in XI).

452. *Practice of Veterinary Medicine and Jurisprudence.* (3-0).

The aim of this course is to acquaint the student with general business methods and State and national laws relating to the practice of veterinary medicine.

(Required in XI).

453. *Infectious Diseases.* (3-0).

This course involves the study of the symptoms, treatment and control of infectious diseases.

(Required in XI).

461. *Obstetrics.* (2-0).

This course treats of accidents of breeding, diseases incidental to pregnancy, parturition and post-partum conditions. Attention is also given to diseases of the newly born.

(Required in XI).

462. *Operative Surgery.* (3-4).

In this course instruction is given in castrating, spaying, dentistry, lameness, shoeing. Surgical exercises are required.

Laboratory fee, \$5.00.

(Required in XI).

FOR GRADUATES.

501a, 502a. Special Surgery. (2-4). Minor.

This course will deal with problems of surgical conditions, surgical pathology, surgical technique and sterility of animals.

Laboratory fee, \$10 each term.

DEPARTMENT OF VETERINARY PATHOLOGY.**ASSOCIATE PROFESSOR PRICE.***242. General Pathology. (3-2).*

This course deals with the elementary disease processes and their causes, including a study of the gross and minute appearance of the diseased tissues. Such processes as inflammation, necrosis, gangrene, atrophy, hypertrophy, ulceration; the various degenerations, infiltrations, pigmentations and tumor formations are considered.

Practice work consists of the microscopical study of these processes and instruction in laboratory technique.

References: General Pathology, Ziegler; Text-book of Comparative General Pathology, Kitt; Text-book of Pathology, Delafield and Prudden; Pathological Technique, Mallory and Wright.

Laboratory fee, \$1.50.

Prerequisite: Veterinary Anatomy 202.

(Required in XI).

341, 342. Special Pathology. (2-0, 2-4).

A course of lectures on the special systematic pathology and morbid anatomy of the different organs and systems of organs. The pathology of the various infectious and contagious diseases is considered.

Practice work includes the demonstration of museum and fresh specimens, and an introduction to post-mortem technique.

References: Pathology and Therapeutics of the Diseases of Domestic Animals, Hutyra and Marek; Veterinary Post-mortem Technic, Crocker.

Laboratory fee, \$4.00, second term.

Prerequisite: Veterinary Pathology 242.

(Required in XI).

343. Special Bacteriology. (2-4).

This course deals with the pathogenic micro-organisms; their morphology, cultural characteristics and pathogenicity is considered.

Practice work consists of the study of the more important micro-organisms which produce disease in man and domestic animals.

References: Microbiology, Moore; Veterinary Bacteriology, Buchanan; A Text-book of Bacteriology, Hiss and Zinsser.

Laboratory fee, \$4.00.

Prerequisite: Biology 209, or its equivalent.

(Required in XI).

441. *Immunology and Serum Therapy.* (2-2).

The fundamental principles of immunity are considered. Special attention is given to the preparation of biologics used in the prevention of infectious diseases.

Laboratory fee, \$4.00.

Prerequisite: Veterinary Pathology 343.

(Required in XI).

442. *Meat Hygiene.* (2-2).

This course deals with the abattoir inspection of meats and meat products; the Federal regulations governing such inspection, condemnation and disposal of carcasses, also the regulations governing interstate and foreign shipments of live stock.

Text: Meat Hygiene, Edelman, Mohler and Eichorn.

Prerequisite: Veterinary Pathology 341, 342.

(Required in XI).

443. *Parasitology.* (2-2).

This course deals with the parasites infesting the domestic animals, and the pathological conditions produced by them. Attention is given to the treatment and control measures.

Laboratory fee, \$1.50.

Prerequisite: Biology 201, 202, or equivalent.

(Required in XI).

444. *Laboratory Diagnosis.* (2-2).

The methods of procedure in the preparation of materials for laboratory examination are given, and the technique of examination explained. Those biological tests which are of especial importance are considered.

Laboratory fee, \$2.00.

Prerequisite: Veterinary Pathology 341, 342, 343.

FOR GRADUATES.

541, 542. *Advanced Special Pathology.* (3-4). *Major.*

Etiology, pathogenesis, lesions and results of disease of organs and systems of organs; also pathology of the infectious diseases.

Prerequisite: Veterinary Pathology 242, or equivalent.

Laboratory fee, \$5.00 each term.

541a, 542a. *Advanced Special Pathology.* (2-4). *Minor.*

A modification of course 541, 542.

Laboratory fee, \$5.00 each term.

543, 544. *Advanced Special Bacteriology.* (3-4). *Major.*

A study of the pathogenic micro-organisms; their cultural and biological characteristics and pathogenicity.

Prerequisite: Biology 209, or equivalent.

Laboratory fee, \$5.00 each term.

543a, 544a. *Advanced Special Bacteriology.* (2-4). *Minor.*

A modification of course 543, 544.

Laboratory fee, \$5.00 each term.

**DEPARTMENT OF VETERINARY PHYSIOLOGY AND
PHARMACOLOGY.**

ASSOCIATE PROFESSOR BLACKBERG.

121. *Physiology of the Domestic Animals.* (2-0).

Lectures on the physical and chemical processes involved in the physiological functioning of the bodies of the domestic animals.

(Required in XI).

122. *Physiology of the Domestic Animals.* (2-0).

Lectures on the physiology of the circulatory, respiratory, muscular and locomotor systems.

Prerequisite: Course 121.

(Required in XI).

221. *Physiology of the Domestic Animals.* (2-0).

Lectures on the nervous system, including special senses, digestion, absorption, secretion and excretion.

Prerequisite: Course 122.

(Required in XI).

222. *Physiology of the Domestic Animals.* (3-4).

Lectures on physiological chemistry, with special reference to digestive juices, enzymes, ferments, hormones, internal secretions, milk, urine, and chemical composition of the body.

The laboratory practice consists of studying blood, milk, urine, and other body fluids, including the action of natural and artificial digestive juices (enzymes) on the various foodstuffs. The students also make graphic records of the physiological functioning of the muscular, nervous, respiratory, and circulatory system.

Laboratory fee, \$2.50.

Prerequisite: Course 221.

(Required in XI).

333. *Pharmacology.* (3-4).

This course covers the general preliminary work in pharmacology. By a series of lectures and recitations a detailed study is made of metrology of the history of therapeutics, the source and composition of drugs, the methods of administration, the various factors influencing the actions of drugs upon the individual, and the active constituents of medicinal plants and posology. The drugs affecting the circulatory and nervous systems, including antipyretics, are then studied in a systematic manner.

The practice consists of laboratory work in examining and identifying

ing crude drugs, making tests for their purity, extracting their active constituents, making chemical tests for each. Pharmaceutical methods used in the manufacture of medicinal preparations are carefully studied and each student is required to make a definite number of all types of official preparations, described in the Pharmacopoeia and in addition a number of non-official preparations. Prescription filling, preparing, compounding and dispensing pharmaceutic preparations are all given ample consideration. The student is given an opportunity to observe the actions of drugs on experimental animals. The chemical and biological methods of standardization of medicinal preparations are taken up in detail.

Text: Veterinary Pharmacology and Therapeutics, Milks; Veterinarian's Handbook, Udall.

Laboratory fee, \$3.00.

(Required in XI).

334. *Pharmacology.* (3-0).

This course, which consists of a series of lectures and recitations, is a continuation of course 331 and takes up all the drugs which were not studied at that time.

Prerequisite: Course 333.

(Required in XI).

432. *Toxicology.* (1-2).

The theory of this course consists of a series of lectures, discussing the causes, symptoms, lesions, prevention and treatment of organic and inorganic poisons, including poisonous plants and endogenous poisons.

In the practice, each student is required to make microscopical, chemical and biological analyses of the more common organic and inorganic poisons and poisonous plants. The students also observe the symptoms, lesions and methods of treatment of cases, produced by the more common poisons upon experimental animals.

Laboratory fee, \$2.50.

Text: Veterinary Toxicology, Lander; Medical Chemistry and Toxicology, Holland.

(Required in XI).

FOR GRADUATES.

501, 502. *Advanced Practical Physiology.* (3-4). *Major.*

This course affords opportunity for observations of the more intricate and recent phases of physiology. It is arranged for advanced students or teachers of physiology who wish to make a thorough study of modern experimental methods. The work will be arranged to suit the needs of the student and in harmony with his previous training. A thesis, based on original investigation is required as part of this course.

501a, 502a. *Advanced Physiology of Nutrition.* (2-4). *Minor.*

This course deals with a detailed study of the modern theories of nutrition with special reference to vitalines.

505a, 506a. *Advanced Poisonous Plants.* (2-4). *Minor.*

This course will deal with original investigations and detailed studies of the poisonous plants affecting domestic animals.

507, 509. *Advanced Experimental Pharmacology.* (3-4). *Major.*

This course affords opportunity for studying the modern methods of research in pharmacology and pharmaceutical processes. It comprises original research in studying the actions and uses of drugs. A thesis based on original investigation is required as part of this course.

DEPARTMENT OF VOCATIONAL TEACHING.

PROFESSOR HAYES, PROFESSORS KRAFT, MARTEN, ASSOCIATE PROFESSOR BROWN, ASSISTANT PROFESSOR DICKEY.

202. *Psychology.* (3-0).

This is a beginning course in psychology adapted especially to the needs of business men and administrators. A study is made of the fundamentals of instinct, attention, habit formation, memory, etc., and the application of these principles to life, to advertising, and to the management of employes.

(Required in XIV).

305. *Vocational Education.* (3-0).

It is the purpose of this course to give a clear understanding of the field of vocational education, to insure sympathy and enthusiasm for the introduction of vocational training in the public schools, to set up proper objectives and to indicate standards in methods, content, and in qualifications of teachers for agricultural, industrial, commercial, and home-making education.

(Required in I, group 2; XII, XIII; elective in I, groups 4, 5, 7, 9, 10).

308. *Educational Psychology.* (3-0).

This is a beginning course in psychology with special emphasis on its application to the problems of teaching. Among the topics considered are the following: Instincts, individual differences, mental tests and measurements, habit formation, association, retention, attention and motivation, characteristics of adolescents and relation to methods of teaching and control.

(Required in I, group 2; XII, XIII; elective in I, groups 4, 5, 7, 9, 10; XIV).

310. Educational and Vocational Guidance. (3-0).

This course includes a survey of the recent development of educational and vocational guidance within and outside of the schools, information on the common occupations and their requirements, an analysis of personal characteristics; try-out methods; value of opportunity and co-operative part-time classes; value of cumulative school records; methods of keeping records; opportunities for educational and vocational guidance; vocational guidance through literature; need for follow-up work in vocational counselling; a study of psychological, industrial and commercial tests.

(Elective in I, group 2; XII, XIII, XIV).

311. Job Analysis. (3-0).

In this course emphasis is placed upon the job analysis and its importance as the foundation for all lesson planning. An analysis of some of the more important industries in which the members of the class are interested, such as woodworking, metal working, printing, electrical construction and operation, automobile construction and repair, is made. Important type jobs, as represented by the evening trade extension part-time and industrial courses, are analyzed as to their operations, trade knowledge, and teaching points, members of the class choosing the type jobs for analysis in which they are most interested.

(Required in XIII).

401. Methods of Teaching Agriculture. (3-0).

The fundamental principles of the aims and methods of the recitation are studied with their application to the conditions of the high school and especially the class in vocational agriculture. The project method of teaching and the socialized recitation are emphasized. Observation in assigned classes and supervised teaching in vocational agriculture are required as part of the course.

(Required in I, group 2; XII; elective in I, groups 4, 5, 7, 9, 10; XIV).

402. Administration of High School Agriculture. (3-0).

This course is a study of the specific problems that confront the teacher in carrying on the work of the department of vocational agriculture in the high school. The analysis of the job of the farmer in a given community; the arrangement of the farm activities into seasonal sequence; the making of the teacher's annual plan; the selection, supervision and operation of home projects; the selection and management of library, shop and laboratory equipment; the organizing and conducting of part-time or evening short unit courses; the conducting of pre-vocational agriculture classes; and the relation of the teacher of vocational agriculture to his school and community, are some of the most important phases of the course. Students get practice in observation and supervised teaching in connection with this course.

(Required in I, group 2; XIII; elective in I, groups 4, 5, 7, 9, 10; XIV).

403. *Rural Education.* (3-0).

The primary purpose of this course is to make a study of rural education in its broad sense, with a view of preparing teachers and extension workers for more efficient service in rural communities. Some of the topics discussed are: Changes in rural education and the rural home, together with the factors affecting such changes; the school as a community center; other agencies to be coordinated; community play and recreation; and the redirected rural school.

Text: *Rural Life and Education*, Cubberley.

(Elective in I, group 2; XII, XIV).

404. *Agricultural Extension and Demonstration.* (3-0).

This course is intended to give a survey of the whole field of extension in agriculture and home economics, and to give practice that will prepare for actual field work. Among the topics discussed are: Evolution of extension in agriculture and home economics; general organization for extension; methods of extension, farm demonstration work; junior agricultural clubs; extension by experts; extension by railroads and commercial companies; and the training of extension workers. Courses 301, 302 and 403 are important to give preparation for this course, but they are not prerequisite. Lectures, assigned readings, and problems constitute the work of this course.

(Elective in I, group 2; XII, XIV).

409. *Supervised Teaching.* (3-0).

The purpose of this course is to give opportunity for students to get actual experience in teaching secondary agriculture under supervision. Lesson plans are submitted by the student and approved by critic teaching in advance of the lesson. The teaching methods and results of the student are discussed in special conferences. Teaching will be done in classes in vocational agriculture on the campus or at nearby high schools. Observation and study are required in addition to the supervised teaching. A minimum of four weeks of continuous teaching will be required. Students are urged to select their courses so that the hours 2 to 4 p. m. will be left open as many days as possible so that the teaching will not interfere too much with work in the other courses.

(Required in XII; elective in I, group 2; XIV).

410. *Supervised Teaching.* (3-0).

This course may be considered the same as 409, or as a continuation of 409.

412. *Supervised Teaching.* (1-4).

This course gives students an opportunity to get actual experience

in teaching industrial education under supervision. Lesson plans are submitted for approval in advance of the lesson. Conference periods are held for discussion of methods used and results obtained. Application for this course should be made at least three months in advance.
(Required in XIII).

415. *Educational Tests and Measurements.* (3-0).

The teacher of agriculture is constantly being used in the smaller school systems in the State as principal or superintendent. It is necessary, therefore, that the special teacher of agriculture have the opportunity of becoming acquainted with modern methods of measuring the results of teaching.

The purpose of this course is to give the teacher, the principal, and the superintendent a working knowledge of educational tests. A study is made of the various tests and measurements employed in measuring school-room instruction.

(Elective in I, group 2; XII, XIII, XIV).

416. *Administration and Supervision of Industrial Education.* (3-0).

This course deals with the various problems encountered in introducing industrial education into a school system and in developing the work in its varied forms. Among the topics discussed are: The place of industrial education in the junior high school as an aid toward educational guidance into the vocations and avocations of life; organization of courses of study for junior high schools, senior high schools, technical schools, trade schools, and corporation schools; safety first; plans and equipment; selection of teachers; improvement of teachers in service; formulating programs; selection of text-books; class-room management.

(Required in XIII).

417. *Lesson Planning and Methods of Teaching Industrial Arts.* (2-2).

This course deals with the effective planning of a lesson in relation to its aim. It includes the planning of definite courses and the arrangement of these courses in effective instructional order, members of the class choosing special industrial education courses in which they are most interested. Emphasis is placed on the details in planning a definite lesson, taking into consideration the varying technical development of the students in the class. Methods of teaching and their value under different teaching conditions are discussed.

(Required in XIII).

418. *Visual Instruction.* (1-4).

The purpose of this course is to study the theory and practice of visual instruction and to acquire skill in the preparation and use of material for visual instruction. The course includes the designing and making of charts, use of the camera making negatives and lantern slides, coloring lantern slides, use of stencils, mimeoscope and projection lantern, operation and care of motion picture machine, graphic representa-

tion of data and the use of the cartoon. Instruction is given in preparation and display of material for fairs and exhibits.

(Elective in I, group 2; XII, XIII, XIV).

419, 420. *Agricultural Education Seminar.* (1-0).

An informal conference is held once a week. The staff of the department and other teachers of the College interested in the current agricultural education problems assist in the discussion. Students enrolling for credit select special subjects for study and report progress from time to time.

(Elective in I, group 2; XII, XIV).

421. *Class Room Organization and Management.* (2-2).

The vital relationship of efficient organization and management to the work of the class room is emphasized. Some of the topics discussed are the industrial education instructor's relation to the school system and community; most effective organization of the equipment and economic way of securing materials as teaching aids; planning of daily programs; lesson planning; discipline and individual adjustment; grading, records and reports; opportunities for educational guidance and aids; opportunities for improvement and advancement in service.

(Required in XIII).

422. *Organization of Part-Time and Evening Trade Extension Classes.* (3-0).

This course is planned for directors in co-ordinators of trade and industry classes. Emphasis is placed upon the definite problems that confront directors of these classes and the solution of these problems. The course includes a study of Smith-Hughes requirements; analysis of industries and planning short unit courses; kinds of evening and part-time classes; their organization and management; holding the members; making out class room records and reports; securing materials as teaching aids.

(Elective in XIII).

423. *Training Industrial Conference Leaders.* (3-0).

This course is planned to give prospective industrial conference leaders from oil refineries, textile mills, electric and steam railway shops, and power and light plants a conception of the principles involved in training foremen and the methods used in conducting conferences for the training of foremen. The value of the developmental method over the informational method of foremen training, and job analysis and its importance are emphasized. Extensive experience is given in analyzing the foreman's responsibilities as related to men, materials and equipment.

(Elective in XIII).

424. Training and Supervising Workers in Industrial Plants. (3-0).

This course is planned for high grade engineering students in their junior and senior years who wish to increase their future opportunities for promotion as executives in the many fields of engineering activities. This course includes a brief summary of the development of training in industry, including corporation schools, vestibule schools, foreman conferences, job analysis, instruction on the job, and effective handling of employes.

(Elective in XIII).

FOR GRADUATES.

501, 502. Agricultural Instruction. (4-0). Major.

This course involves more extensive study of the problems raised in courses 401 and 402. In addition to this study of the work of the teacher of vocational agriculture, each student selects an individual problem for intensive study as a basis for his thesis. As one of the requirements of this course the student attends and takes part in courses 419, 420. Courses 401 and 402 must precede or accompany this study.

501a, 502a. Agricultural Instruction. (3-0). Minor.

A modification of course 501, 502.

503, 504. Agricultural Extension and Demonstration. (4-0). Major.

This course involves more extensive study of the problems raised in course 404. In addition to this study of the entire field of Farmers' Co-operative Extension Work in Agriculture and Home Economics each student selects an individual problem for intensive study as a basis for this thesis. As one of the requirements of this course the student attends and takes part in courses 419, 420. Course 404 must precede or accompany this study.

503a, 504a. Agricultural Extension and Demonstration. (3-0). Minor.

A modification of course 503, 504.

505, 506. Organization and Management of Teacher-Training Departments. (4-0). Major.

This course involves a more extensive study of the problems raised in courses 401 and 402, with special emphasis on the duties of the teacher of vocational agriculture as a basis for determining what the teacher-training department must do and how it must be accomplished. Each student selects an individual problem for intensive study as a basis for his thesis. Courses 401 and 402 must precede or accompany this study. As one of the requirements of this course the student attends and takes part in courses 419, 420.

505a, 506a. Organization and Management of Teacher Training Departments. (3-0). Minor.

A modification of course 505, 506.

507, 508. *Direction and Supervision of Vocational Agriculture.* (4-0).
Major.

This course involves more extensive study of the problems raised in courses 401 and 402, with special emphasis on the means and methods of supervising and directing the work of the teacher of vocational agriculture and supervising the training of teachers. Courses 401 and 402 must precede or accompany this study. As one of the requirements of this course the student attends and takes part in courses 419, 420.

507a, 508a. *Direction and Supervision of Vocational Agriculture.*
(3-0). *Minor.*

A modification of course 507, 508.

PART V

**RESEARCH, EXTENSION, SUMMER SESSION, AND OTHER
ACTIVITIES.**

THE AGRICULTURAL EXPERIMENT STATION.

B. YOUNGBLOOD, DIRECTOR.

The Texas Agricultural Experiment Station is one of the four co-ordinate divisions of the Agricultural and Mechanical College of Texas. Its function is the investigation of agricultural problems. It consists of a central station at College Station, and thirteen substations, located in various sections of the State, as follows:

Angleton, Beeville, Beaumont, Chillicothe, Denton, Lubbock, Nacogdoches, Pecos, Spur, Temple, Troup, Sonora, College Station.

These substations are used for extending the work of the Main Station, so that Statewide information may be secured upon the various phases of Station work. The Station at the present time is supported by \$30,000 Federal and \$180,970.40 State funds, for the year.

The work of the Station comprises the investigation of the more important problems of veterinary science, chemistry, horticulture, animal industry, entomology, agronomy, plant pathology and physiology, forestry, plant breeding, rural economics, and the Feed Control Service. The Station is a source of valuable information for students of agriculture and the farmers and stockmen of the State. It is looked to for facts by the School of Agriculture, the Extension Service, and other agencies for the dissemination of agricultural information.

The work of the Main Station, and of the feeding and breeding substation (Substation No. 10) presents to students very unusual opportunities both in theoretical instruction and practical experience.

A brief statement of the work of the Station, by divisions and substations, is as follows:

MAIN STATION.

VETERINARY SCIENCE.

The Division of Veterinary Science conducts researches covering the diseases of farm animals of various kinds. Special attention is being given to diseases affecting horses and mules, cattle, sheep, goats and swine.

CHEMISTRY.

The Division of Chemistry conducts researches relating to feedstuffs, soils, fertilizers, irrigation waters, minerals, paints, and miscellaneous analysis; analysis of feeding stuffs for the Feed Control Service; and the enforcement of the State law regulating the sale of commercial fertilizers. The Chief of the Division of Chemistry is also State Chemist.

HORTICULTURE.

The Division of Horticulture conducts researches relating to fruits, vegetables, and ornamental trees and shrubs, and the introduction and

propagation of new and promising varieties of fruits, vegetables and shrubs from foreign countries.

ANIMAL INDUSTRY.

Under the Division of Animal Industry researches are conducted with reference to the feeding, breeding, and management of various types of farm animals, including cattle, horses, sheep, goats, swine, and poultry. Substations 7, 10, and 14 are used somewhat extensively for various lines of research into problems relating to the animal industry of the State.

ENTOMOLOGY.

The Division of Entomology conducts researches relating to the various insect pests affecting the crops of the State, including life-history and methods of control of the various species, as well as researches relating to the beekeeping industry of the State. The chief of this division is also State Entomologist, and as such has immediate charge of the enforcement of the law regulating foul brood in bees.

AGRONOMY.

The Division of Agronomy conducts researches relating to the various farm crops adapted to the State, and pays special attention to the introduction and propagation of new and promising crops from foreign countries. Attention is also paid to soil fertility, and researches are conducted as to methods of application of fertilizers and green manures for soil improvement.

PLANT PATHOLOGY AND PHYSIOLOGY.

The Division of Plant Pathology and Physiology conducts researches relating to the diseases affecting plants of the State, with a view to developing methods of combating them. Both field crops and vegetable diseases are studied, as well as diseases of trees, ornamentals, and shrubs of various kinds.

FORESTRY.

The Division of Forestry conducts researches relating to the introduction, preservation and propagation of forest trees in various parts of the State, and the maintenance of an adequate timber supply for the State. The State Forester, who is chief of this division, is charged by law with the prevention of forest fires.

PLANT BREEDING.

The Division of Plant Breeding conducts researches that relate to the breeding of plants, and their improvement, including field crops, such as cotton, corn, the sorghums, and so forth, special attention being paid to inheritance, and determination of the Mendelian unit characters.

FARM AND RANCH ECONOMICS.

Formerly it was the custom for experiment stations to take up specific problems affecting farm practices for solution by specialists. At the present time there is quite a general change in viewpoint which causes the experiment station to look upon all farm problems as being a part of or having a bearing upon the more general problems of rural economics and sociology. In accordance with a nation-wide movement, there has been created in the Texas Station a Division of Farm and Ranch Economics, for the purpose of studying the economic problems affecting the agriculture of the State. In the future, therefore, the work of the specialists will be so arranged as to solve specific problems and at the same time throw light upon the more general economic problems.

FEED CONTROL SERVICE.

The State law regulating the sale of concentrated commercial feeding stuffs and the materials from which they are manufactured, provides for defining them, for prohibiting their adulteration; for correct weighing and marking, and for collecting of samples; it also provides for the expense of enforcing the law, and for fixing penalties, and places the enforcement of the act in the hands of the Director of the Texas Agricultural Experiment Station. The Director is empowered to adopt names, standards and definitions; to refuse registration of any feeding stuff under a name which would be misleading as to the materials of which it is made up, or which does not conform to the standards, and after ten days' notice to cancel such registration as may be found in violation of the law or contrary to the names, standards and definitions in effect.

The purpose of the Feed Control Service, which is operated as a division of the Station, is to afford protection alike to buyers and sellers of feeding stuffs. Annual bulletins are issued, giving the names, standards and definitions; lists of firms registered for the purpose of selling feeds in Texas, and the feeds offered by them, as well as the chemical composition of these feeds, as determined by the chemist for the Feed Control Service.

The Feed Control Service investigates problems encountered in the enforcement of the law, with reference to the feeding values of various feeds and combinations of feeds. The results of these investigations are given to the people of the State through bulletins and circulars, issued from time to time.

SUBSTATIONS.

The thirteen substations, owned and operated by the State as a part of the Station, are, as their name implies, subordinate to and a part of the Main Station. In the location of these substations due regard has been given to the need of outlying work within the several agricultural regions.

PUBLICATIONS.

The reports, bulletins and circulars of the Station are distributed to the farmers and stockmen of Texas, and others interested, free for the asking. Care is taken, however, to see that economical distribution is made. All requests for publications should be addressed to:

THE DIRECTOR, TEXAS AGRICULTURAL EXPERIMENT STA-
TION, A. AND M. COLLEGE OF TEXAS,
COLLEGE STATION, TEXAS.

THE ENGINEERING EXPERIMENT STATION.

J. C. NAGLE, DIRECTOR.

The Texas Engineering Experiment Station is composed of all the engineering departments of the College, and was organized in 1914 for the purpose of affording a service to the industries of Texas similar to that afforded to the agricultural interests by the Agricultural Experiment Station; of assisting the urban population of the State in solving the technical problems of urban life; of investigating engineering and industrial problems of especial importance to Texas, and of disseminating information along these lines.

The Texas Engineering Experiment Station staff consists of the entire teaching force of the following departments of the College:

Agricultural Engineering.

Architecture.

Chemical Engineering.

Civil Engineering.

Economics.

Electrical Engineering.

Mechanical Engineering.

Physics.

Textile Engineering.

Bulletins have been issued as follows:

No. 1. Earth Roads.

No. 2. Relation and Value of Chemistry to Industry.

No. 3. The Comparative Value of Fuels.

No. 4. Highway Bridges and Culverts.

No. 5. Highway Engineering at the A. and M. College. (Superseded by No. 14).

No. 6. Household Conveniences.

No. 7. Gravel Roads.

No. 8. Electricity in the Country Home.

No. 9. Cotton Classing and Marketing.

No. 10. Sewage Disposal for Country Homes.

No. 11. Purchasing by Specification.

No. 12. Demonstration Roads at the A. and M. College. (Out of print).

No. 13. The Financial Side of Road Improvement.

No. 14. Highway Engineering at the A. and M. College of Texas. (Out of print).

No. 15. The Organization of a State Highway Department for the State of Texas. (Out of print).

No. 16. Maintenance of Earth, Sand-Clay and Gravel Roads.

No. 17. The Physical Testing of Non-bituminous Road Materials.

No. 18. The Benefits of Good Roads.

- No. 19. Sand-Clay Roads.
- No. 20. The Value of Economic Geology.
- No. 21. The Administration of Highway Improvements. R. L. Morrison.
- No. 22. Bituminous Pavement Investigations in Certain Texas Cities, Part I, Bitulithic. Roy M. Green.
- No. 23. Principles of Pavement Selection, with Statistics of Pavements in Texas Cities and Towns. Prior to January 1, 1920. Roy M. Green and L. W. Kemp.
- No. 24. Bituminous Pavement Investigations in Certain Texas Cities, Part II, Asphaltic Concrete (Topeka and Modified Topeka), Sheet Asphalt, Uvalde Rock Asphalt, and Oklahoma Rock Asphalt. Roy M. Green.

For copies of these bulletins, and for information regarding the work of the Texas Engineering Experiment Station, address J. C. Nagle, Director, College Station, Texas.

THE EXTENSION SERVICE.

T. O. WALTON, DIRECTOR.

Extension work in agriculture and home economics by the Agricultural and Mechanical College in co-operation with the United States Department of Agriculture was established under the terms of the Smith-Lever Act, the Texas Legislature formally accepting the terms of the Federal Act passed in May, 1914. The Board of Directors and the President of the College executed the first co-operative agreement under its terms with the States' Relations Service of the United States Department of Agriculture in 1914.

The general purpose is to carry information from the College, the Experiment Stations and other authentic sources to farmers, farm women, farm boys and girls. In addition to the regular State and Federal Smith-Lever funds that are available for the conduct of the work, several co-operative projects are maintained by the United States Department of Agriculture under co-operative agreement between the College and department, these activities being correlated with and functioned through the Extension Service of the College. Besides the important undertakings of farm and home demonstration work through county agents, sustained jointly by the county, the College and the Department of Agriculture, the service disseminates information by demonstrations for the development of better farming and home-making, and in a broad way for the promotion of rural welfare. The funds available from the counties, the State and the Federal Department have been sufficient to enable the College to maintain county agents in practically all of the more important agricultural counties in the State. The condition under which work is placed in a county is, that the county commissioners court or other local organization pay from one-half to two-thirds of the salary of the agent; the remaining portion of the salary and expenses being borne by the College and department.

FARM DEMONSTRATION WORK.

The farm demonstration work is conducted by district and county agents, and consists of applying scientific principles to the solution of the problems of production and marketing farm and ranch products.

HOME DEMONSTRATION WORK.

The farm home is an essential part of the farm establishment, and the district and home demonstration agents are disseminating information to farm housewives through demonstrations, lectures, publications, in home management, dairying, gardening, orcharding, poultry keeping and other phases of home improvement; thus enabling the farm women to keep fully informed with reference to modern methods in dealing with household problems.

SPECIALISTS.

In the growth and development of the work, trained specialists in certain phases of agricultural work have been found essential to the successful dissemination of information on improved agricultural practices. These men and women specialists keep in touch with the latest information obtainable regarding their particular specialty and assist the county and home demonstration agents in the solution of difficult problems in their work requiring the services of specially trained men and women along certain lines, and compile information, answer correspondence, and emergency calls.

RURAL ORGANIZATION.

The Extension Service, through its specialists, district and county agents, is encouraging rural organization in counties where agents are maintained, the purpose of these organizations being to stimulate co-operation among farmers in all matters of interest to farm families, and especially the co-operative handling of farm products through purchase and sale in such manner as to obtain the best returns.

BOYS' AND GIRLS' CLUBS.

The primary mission of an educational institution is to look after the rising generation, and while the Extension Service would in nowise neglect the adult farmer, yet it has realized the importance of properly training the youth of the State during the formative period; therefore, special effort has been made under trained leadership and by diligent instruction to give the boys and girls the proper understanding of agriculture and home economics and to prepare them for successful and happy life in the country. The particular projects maintained are boys' agricultural and live stock club work and girls' canning and poultry club work.

PUBLICATIONS.

Seasonal advice on farm problems is issued through bulletins, leaflets, circulars, correspondence, newspaper articles, and the Semi-Monthly Extension Service Farm News, as well as correspondence and mimeographed letters and circulars.

SUMMER SESSION.

GENERAL STATEMENT.

The Summer Session of the Agricultural and Mechanical College of Texas has been established for the following well defined purposes:

1. To provide courses of instruction in all phases of agriculture and the allied sciences, and in automobiles and tractors, manual training, cotton classing, grain grading, rural sanitation, rural economics, and rural social science, for the benefit of teachers, rural ministers, county and local officers, farmers, farm boys, farm women, rural merchants, and others who may be interested in any phase of agricultural or rural development.

2. To offer to young men having sufficient preparation the opportunity of taking courses for college credit, and also to permit students of the College to remove deficiencies or to pursue courses toward graduation.

3. To provide the opportunity for graduate work in a limited number of courses carrying credit toward the degree of Master of Science.

ORGANIZATION.

The work of the Summer Session is given in the following eight divisions:

1. *The College. (Twelve Weeks).*

Two groups of courses will be given in this division, as follows:

1. Courses carrying credit toward graduation.
2. Courses carrying credit toward a certificate in agriculture.

All courses in this division are open only to those who have had the prerequisite training. The work is given in two terms of six weeks each.

The maximum amount of work a student may carry in a six weeks' term is the equivalent of eight term-hours, except in the case of men who have had approved teaching experience; with the consent of the Director of the Summer Session such men may carry the equivalent of nine term-hours. All rules of the regular session apply to the Summer Session in the matters of prerequisites, grades, examinations, and class absences. Three cases of tardiness to class will be counted as one absence.

All work in the Summer Session must be taken in accordance with the published schedule.

The last day on which a student may complete his registration for work in the College Division is Friday of the first week of each term. All students, except those registering for the first time, who do not complete their registration on the first day of each term will be charged a fee of five dollars for late registration.

The right is reserved to withdraw any course for which fewer than five students register.

2. *The School of Cotton Classing. (Six Weeks).*

The object of the School of Cotton Classing is to prepare young men for cotton buying and the managing of cotton warehouses, and to offer to farmers the opportunity of increasing their knowledge of the leading farm product of Texas.

A study is made of the elements which determine the commercial grades of cotton; the influences which affect the price of cotton; the system of financing the crop from field to factory, and the relation of exchanges to the business in general. Each class is furnished with new samples for practice and the work is patterned after that of a cotton office. The samples used in the summer school are obtained from the cotton States west of the Mississippi River and an effort is made to familiarize the student with the different characteristics of cotton grown in the Southwest.

Special attention is paid to the staple of cotton, and experts in this branch give instruction in this subject. Many samples of various lengths of staple are provided for students taking up this line of work.

The government standards for classing cotton, which have been adopted by all the exchanges, are used.

3. *The School of Grain Grading. (Six Weeks).*

The School of Grain Grading has been established for the purpose of giving detailed instruction in the matter of grading grains according to the Federal standards established by the recent Grain Standards Act. This act was approved August 11, 1916, and its purpose is to provide for the establishment of a single set of standards of quality and condition for the various grains, and to provide for their uniform application to the shipments of grain by grade in interstate and foreign commerce. The act specifically prohibits the use of any other grades whatsoever for any grain which comes under its requirements. To enforce the provisions of this act and to supervise the inspection of grain, in order that the Federal grades may be uniformly and properly applied, a Federal Grain Supervision Service has been created in the Bureau of Markets of the United States Department of Agriculture. In carrying out the provisions of this service the actual inspection and grading of grain is done by inspectors licensed for that purpose. In Texas these inspectors are licensed by the State Commissioner of Markets and Warehouses. In order to secure such a license it is necessary that the applicant first pass a satisfactory examination before a State board of examiners for grain graders, which board is appointed by the Commissioner of Markets and Warehouses of the State of Texas. This examination is held in accordance with the Federal Grain Standards Act and the like standards of the Markets and Warehouse Department of the State of Texas. It is the plan of the Department of Markets and Warehouses to have a large number of people in the grain growing belt of this State prepare themselves for the classing and grading of grain. One of the important objects of the Grain Grading

School is to prepare persons who desire to enter this field of work for the examination mentioned above.

Again, the use of the Federal standards in the grain markets has stimulated a desire among grain farmers and grain dealers to gain a knowledge of the methods of applying the standards. This knowledge will enable the farmer to know, when his grain is being graded at the country mill or elevator, that it is being done properly. These facts, together with the generally increased interest in the last few years in marketing of farm products, has greatly increased the demands made on the agricultural colleges for information on the market grading of grains.

The work of the Grain Grading School will cover, in detail, the grading of wheat, corn (both in the ear and shelled), oats, rice, and the grain sorghums (both in the head and the threshed grain). No Federal standard has been established for the grain sorghums. However, the State Commissioner of Markets and Warehouses has recently established standards for the grading of grain sorghums, and the work of this school, relative to grain sorghums, will be given in accordance with the standards fixed by the Commissioner of Markets and Warehouses.

4. The Eight Weeks' Course in Automobiles and Tractors.

This course is intended to meet the demand for men who can operate and repair farm gas engines, tractors and automobiles.

The gas engine is the basis of tractors, automobiles, and the farmer's power, hence the course includes a very thorough training in gas engines. All types of gas engines are studied, from the one-cylinder up to the eight-cylinder. The student actually takes apart these engines, puts them back together, and makes them run. In this way he learns how to time valves, ignition, grind valves, etc. Bearings are poured and scraped. Soldering, hardening of steel and other practical points needed in motor repair are taught.

A very careful study, which includes repair and adjustment, is made of the chassis—the springs, rear end transmission.

Two weeks are spent in the study of ignition of multi-cylinder motors. The different systems found on tractors and automobiles are taken up. The student is expected to wire up the various systems as they are found on the tractors and automobiles in the laboratory.

Magnetos are taken apart and studied; they are timed and repaired. Every effort possible is made to get the student familiar with the principles underlying gas engine ignition.

Oxygen-acetylene welding is given in the regular course. Students get an opportunity to do welding. The department does considerable welding for the outside, and the students get the benefit of seeing this work done.

A detailed study of tractors is included, which requires the students to use them in the field. The Agricultural Engineering Department has a 100-acre farm which is reserved for tractor work with students.

All the field operations are done, such as plowing, discing, threshing, cultivating, hauling, etc.

5. *The Farm Boys' Division. (Four Weeks).*

The object of this course is to offer to boys not under fourteen or over eighteen years of age, elementary, but practical, courses in subjects relating to farm life.

For several years there has been growing, throughout the State, a feeling that our farm boys should be given better opportunities for securing special training in agricultural and farm-life subjects. A great majority of these boys have not had access to schools of sufficient grade to enable them to enter college courses, and it is to meet their needs for practical instruction in agriculture that the Farm Boys' Division has been added to the work of the Summer Session.

Courses will be given covering the important divisions of agriculture.

6. *The Course for County Agents. (Six Weeks).*

The work of this division is planned to meet the needs of persons who desire to better prepare themselves for county agent work. The duties of an efficient county agent require that he has a knowledge of the elementary principles underlying agricultural practice, as well as successful farm experience. In the future no person will be appointed to a position as county agent in Texas who does not have, in addition to successful and satisfactory farm experience, a general knowledge of the principles underlying modern agricultural practice, and who cannot satisfactorily pass an examination as provided for in the following "rider," which was attached to the appropriation bill for the Agricultural and Mechanical College by the Thirty-sixth Legislature:

"Provided further, that no salary provided for in the Extension Service section of this act shall be paid to any person who has not first stood a satisfactory examination before the faculty of the Agricultural and Mechanical College of Texas, or a committee of not less than five selected from said faculty by the President of the Agricultural and Mechanical College. Said examination shall be conducted at such times and places and shall embrace such subjects as shall be decided upon by the faculty or committee herein provided for."

The courses of study in this division have been carefully outlined to meet the needs as stated above.

7. *The Farmers' Short Course. (One Week).*

This course is planned to meet the needs of men and women who desire to farm on a better basis, and to make farming more profitable, and to make farm life more comfortable and attractive.

The teaching staff of the Farmers' Short Course will be composed of officers from the teaching division, the Experiment Station and the Extension Service of the College. There will also be several out-of-State speakers of national reputation.

CHARACTER OF WORK.

1. *Agriculture*.—Separate courses will be offered in the following departments: Agricultural Education, Agricultural Engineering, Agronomy, Animal Husbandry, Dairy Husbandry, Horticulture, Poultry, Plant Diseases and Insects, and Veterinary Medicine.

2. *Home Economics*.—A special course in Home Economics will be offered to girls and women. The work will consist of lectures and demonstrations in cooking, canning, basket making, and household art. A special feature of this course will be the Canning Club Contest for the Farm and Ranch Loving Cup.

3. *Course for Boys*.—A special course will be offered for boys. The work will be given in judging live stock, farm machinery, gas engines, tractors, budding and grafting of plants, and the like. A special feature of this course will be the Live Stock Judging Contest for the Progressive Farmer's Loving Cup.

8. *The Short Course for Electric Metermen*. (*One Week*).

The object of this course is to give intensive instruction covering the principles of operation, the calibration and methods of repair of electric meters.

While this course will be of special interest to employes of those central stations which do not find it possible to provide training for the members of their meter departments, it will prove of value to anyone interested in the testing, adjusting or installing of electric meters.

The instruction will be given in the form of lectures, demonstrations and individual laboratory work, and will cover the fundamentals of electric circuits and the principles underlying the operation of electric meters.

Two courses will be given: one dealing with the more elementary principles of electricity and the single phase meter, and the other for more advanced men will cover polyphase meters.

ADMISSION REQUIREMENTS.

In the College division courses will be offered subject to the same general requirements as in the regular session.

To enter the eight weeks' course in automobiles and tractors the student must be sixteen or more years old, and must present a certificate from some reliable person showing that he is in good standing in his community.

The work of the Farm Boys' Division is open only to boys not under fourteen or over eighteen years of age.

To enter the course for county agents, the students must meet the minimum educational requirement, which is the equivalent of a first grade teacher's certificate.

There are no fixed requirements for admission to the School of Cotton Classing, the School of Grain Grading, or the Farmers' Short Course.

FERTILIZER CONTROL SERVICE.

G. S. FRAPS, STATE CHEMIST.

The chemist of the Texas Experiment Station is designated by law as State Chemist, and has charge of the enforcement of the fertilizer law. Under his direction fertilizers are inspected, sampled for analysis, the samples analyzed, and the results published as bulletins of the Experiment Station. It is also the duty of the State Chemist to investigate the composition, properties, and agricultural values of fertilizers, of fertilizer materials, and to conduct experiments relative to the value of fertilizers. Such investigations are being made, and the results published from time to time. The people of the State are furnished with information concerning fertilizers, by means of personal letters, bulletins, and otherwise. Co-operative fertilizer experiments are made with farmers, so that they can test the effects of various combinations of fertilizers on their own land.

Analyses are made of soils, irrigation and domestic waters, fertilizers, etc., when the analysis would be of public benefit along the lines of agricultural chemistry, and when the samples are taken in accordance with the requirements necessary to secure a suitable sample. Persons who desire to secure an analysis should request further information and instructions for sampling, as samples must be properly taken if the analysis is to have any value.

Analyses of feeding stuffs for the Feed Control Service, and chemical investigations of their composition and properties, are also made by the State Chemist.

OFFICE OF STATE ENTOMOLOGIST.

M. C. TANQUARY, STATE ENTOMOLOGIST.

By law the entomologist of the Texas Agricultural Experiment Station is ex-officio State Entomologist, and his headquarters are at College Station. The State Entomologist is charged with enforcing the laws of the State relative to diseases of honey bees. Under this law, it becomes the duty of every citizen to report the presence of any disease of honey bees to the State Entomologist. The law empowers the State Entomologist to issue such regulations as may be necessary to control diseases of bees. These regulations as they are now issued restrict the shipment of bees and appliances capable of transmitting diseases from one county to another without a certificate showing them to be free from disease. It is unlawful for common carriers to accept for shipment any bees or appliances except as provided for by the State Entomologist. All apiaries having American foul brood are under quarantine. The State Entomologist is required to publish such information as is necessary on the methods and directions for treating, eradicating and suppressing diseases of honey bees. It is unlawful for anyone to seek to prevent the inspection of bees, honey or appliances by the State Entomologist or his assistants. In addition to enforcing the law relative to the diseases of bees, the State Entomologist furnishes the citizens of the State with information concerning injurious insects and their control.

OFFICE OF STATE FORESTER.

E. O. SIECKE, STATE FORESTER.

By act of the Thirty-fourth Legislature the office of State Forester was established, together with a department of forestry at the Agricultural and Mechanical College, with a division of forestry of the Agricultural Experiment Station with headquarters at College Station. In accordance with the law the State Forester has direction of all forest interests and all matters pertaining to forestry within the jurisdiction of the State. He is charged with the duty of enforcing all laws pertaining to the protection of forests and woodlands, preventing and extinguishing forest fires, collecting data relative to forest conditions, and co-operating with counties, towns, corporations and individuals in preparing plans for the protection, management and replacement of trees, wood lots and timber tracts. Under the forestry act the State is authorized to accept gifts of land to be used so as to demonstrate the practical utility of timber culture, water conservation and as refuges for game. The Board of Directors has the power to purchase lands in the name of the State, suitable chiefly for the protection of timber, as State forests, using for such purposes any special appropriations or any surplus money not otherwise appropriated which may be standing to the credit of the State forestry fund. All moneys received from the sale of wood, timber, minerals, or other products from the State forests and penalties for trespassing thereon shall be paid into the State Treasury and shall constitute a State forestry fund.

PART VI
REGISTER

REGISTER OF STUDENTS

GRADUATE STUDENTS

- Baker, Dudley Evans College Station
 B. S., A. and M. College of Texas, 1918.
 Candidate for the Degree of Civil Engineer
- Cole, Ransom James Bryan
 B. S., A. and M. College of Texas, 1916.
 Candidate for the Degree of Master of Science (in Agriculture)
- Cox, Moses Eugene College Station
 B. S., Clemson Agricultural College, 1916.
 Candidate for the Degree of Civil Engineer
- Crawford, Charles William Bryan
 B. S., A. and M. College of Texas, 1919.
 Candidate for the Degree of Mechanical Engineer
- Daugherty, Martin Marion Bryan
 B. S., A. and M. College of Texas, 1916.
 Candidate for the Degree of Master of Science (in Agriculture)
- Dickey, George Leon College Station
 B. S., A. and M. College of Texas, 1921.
 Candidate for the Degree of Master of Science (in Agricultural Education)
- Egger, Harmon Wilson Greenville
 B. S., A. and M. College of Texas, 1921.
 Candidate for the Degree of Mechanical Engineer
- Fletcher, Robert K. College Station
 A. B., University of Maine, 1917.
 Candidate for the Degree of Master of Science (in Agriculture)
- Fritts, Thomas Albert College Station
 B. S., A. and M. College of Texas, 1921.
 Candidate for the Degree of Master of Science (in Agricultural Education)
- Hughes, William Lycurgus College Station
 B. S., A. and M. College of Texas, 1921.
 Candidate for the Degree of Master of Science (in Agricultural Education)
- Lomanitz, Sebastian Shabbatta Bryan
 B. S., A. and M. College of Texas, 1908.
 Candidate for the Degree of Master of Science (in Agriculture)
- McNew, John Thomas Lamar College Station
 B. S., A. and M. College of Texas, 1918.
 Candidate for the Degree of Civil Engineer
- Milner, Drinkard Blacknall College Station
 B. S., A. and M. College of Texas, 1917.
 Candidate for the Degree of Master of Science (in Architecture)
- Milton, Hugh Meglone College Station
 B. S., University of Kentucky, 1919.
 Candidate for the Degree of Civil Engineer
- Moore, Fleming George College Station
 B. S., A. and M. College of Texas, 1902.
 Candidate for the Degree of Master of Science (in Agriculture)

- Munson, Thurmond Armour.....College Station
 B. S., A. and M. College of Texas, 1910.
 Candidate for the Degree of Civil Engineer
- Patterson, John Carr.....College Station
 B. S., A. and M. College of Texas, 1912.
 Candidate for the Degree of Master of Science (in Agriculture)
- Robinson, Frank Hill.....Bollivar, Tenn.
 B. S., University of Tennessee, 1920.
 Candidate for the Degree of Master of Science (in Agriculture)
- Thadani, Khubchand Isardas.....Karachi, India.
 Bachelor of Agriculture, University of Bombay, 1910.
 *Candidate for the Degree of Master of Science (in Agriculture)

*Received Master of Science Degree September 30, 1921.

UNDERGRADUATE STUDENTS

Abbreviations

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|---|-------------------------------------|
| AA.—Agricultural Administration. | CE.—Civil Engineering. |
| AE.—Agricultural Education. | EE.—Electrical Engineering. |
| Ag.Eng.—Agricultural Engineering. | ME.—Mechanical Engineering. |
| Ag.—Agriculture. | TE.—Textile Engineering. |
| Ar.—Architecture. | VM.—Veterinary Medicine. |
| Ch.E.—Chemical Engineering. | IE.—Industrial Education. |
| C.—Two-Year Course in Agriculture. | |
| H.—Two-Year Course in Textile Engineering. | |
| M.—Two-Year Course in Agricultural Engineering. | |
| N.—Two-Year Course in Engineering. | |
| SP.—Special Student. | '25—Freshman. |
| '22—Senior. | 1.—First Year of Two-Year Courses. |
| '23—Junior. | 2.—Second Year of Two-Year Courses. |
| '24—Sophomore. | |

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|-----------------------------------|-----------------|---------------------|
| Abbey, Garland Ellis..... | '25 Ag..... | Coleman |
| Abercrombie, Charles Milo..... | '25 ME..... | Houston |
| Ablowich, Dave, Jr..... | '25 EE..... | Greenville |
| Abrams, Norman Hughes..... | '24 ME..... | Sherman |
| Adair, George Perrin..... | '25 EE..... | Boerne |
| Adam, David Andrew..... | '25 AA..... | Marlin |
| Adams, Henry Clay..... | '24 ChE..... | Houston |
| Adams, Lucian Calvin, Jr..... | '25 Ag..... | Texarkana |
| Adams, Madison Hilliard..... | '23 CE..... | Forney |
| Adams, William Floyd..... | '23 EE..... | Brownwood |
| Albrecht, Frederick William..... | '22 Ag..... | Fort Worth |
| Albritton, John Allen..... | '25 AA..... | Kerens |
| Alexander, E. R..... | Sp. Ag. Ed.... | Bryan |
| A. B., Baylor University, 1919. | | |
| Alexander, Ralph Kimball..... | '22 CE..... | Weatherford |
| Alexander, William R..... | '22 ME..... | Navasota |
| Allen, Bernice John..... | '24 Ag..... | McGregor |
| Allen, Heber Rieves..... | '25 AA..... | Mansfield, La. |
| Allen, Sherwood Thomas..... | Sp. Ar..... | Wichita Falls |
| Allen, Willis Lang..... | '24 Ag..... | Marlin |
| Allison, James Nealy..... | '25 EE..... | Denton |
| Allison, Ulmont Sterling..... | '24 Ag. Eng.... | Bishop |
| Alsmeyer, Henry Louis..... | '25 Ag..... | Mission |
| Amberg, Clinton Gerhard..... | '23 EE..... | La Grange |
| Amsler, Jack Bennard..... | '24 TE..... | Hempstead |
| Amsler, Neill Fred..... | '24 ChE..... | Brenham |
| Anderson, O. C..... | '25 Ar..... | Smithville |
| Andrew, Hunter Bertram..... | '25 AA..... | San Angelo |
| Andrews, Travis Wilson..... | '25 EE..... | Bastrop |
| Andrews, William Henry Bryan..... | Sp. EE..... | McKinney |
| Anschicks, Carl Sommer..... | '22 TE..... | Calvert |
| Antoline, Sam..... | '24 AA..... | Woodworth, La. |
| Argudin, Manuel Zarababal..... | '24 TE..... | Orizaba, Ver., Mex. |
| Arick, Melvin Ray..... | '24 CE..... | Fort Wayne, Ind. |
| Arledge, Samuel Fisher..... | '25 CE..... | Crockett |
| Armistead, George, Jr..... | '23 ChE..... | Houston |
| Armstrong, Everett Louis..... | Sp. Ag..... | Hebbbronville |
| Armstrong, Paul Wendell..... | '22 CE..... | Amarillo |
| Armstrong, Raymond Crosby..... | '25 CE..... | Wharton |
| Arnandez, Jules Louis..... | '24 VM..... | New Iberia, La. |

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|-----------------------------|-----|----------|-------------------|
| Arnim, Victor Travis | '25 | Ar. | Corpus Christi |
| Arnold, Raymond Wesley | '24 | EE. | San Antonio |
| Ashburn, Redman Franklin | '23 | EE. | Denison |
| Ashford, John Cecil | | Sp. Ar. | Bryan |
| Ashford, Langston | '23 | EE. | Plantersville |
| Ashmore, Daniel Garfield | | Sp. Ag. | Dallas |
| Ashworth, Durward Belmont | '23 | CE. | Weatherford |
| Askey, John Nixon | '25 | Ag. | Clarkwood |
| Atkins, Hardin Louis, Jr. | '22 | Ag. | Bandera |
| Atkinson, Andrew Chandler | '24 | Ag. | McKinney |
| Atkinson, William Henry | '25 | EE. | San Angelo |
| Aubin, Charles T. | '24 | Ar. | San Antonio |
| Ausley, George Conrad | '25 | Ar. | Colorado |
| Austin, Russell Elliston | '25 | CE. | Rockwall |
| Axe, Rudolph Alfred | '23 | ME. | Texas City |
| Axline, Edwin Jasper | '25 | CE. | Houston |
| Baccus, Ira Bishop | '25 | EE. | Plano |
| Bailey, Edmond Ira | '25 | EE. | Waco |
| Bailey, Lewis | '25 | Ag. | Bryan |
| Bailey, Percy Smith | '24 | CE. | Rusk |
| Bainbridge, Eugene Magill | '24 | EE. | Sweetwater |
| Bairfield, Charles E. | '23 | AA. | Clarendon |
| Baker, Charles Edmund | '25 | EE. | Lusk, Wyoming |
| Baker, Dayton Uri | '25 | EE. | Haskell |
| Baker, John Farris | '24 | Ag. | Girvin |
| Baker, John Ford | '24 | CE. | Fort Worth |
| Baker, Thomas Harrison, Jr. | '23 | Ar. | Memphis, Tenn. |
| Ballantyne, Campbell Burn | '25 | CE. | Brackettville |
| Ballard, William Lambert | '22 | Ag. | Dallas |
| Ballew, William Fletcher | '24 | ChE. | Corsicana |
| Banks, Ben B. | '25 | EE. | Springtown |
| Barber, Solomon Gleason | '25 | CE. | Jacksonville |
| Barbour, William Lason | '25 | CE. | Tampico, Mex. |
| Bare, John Harold | '23 | ME. | Yoakum |
| Barker, Wayne | | Sp. EE. | Ranger |
| Barker, Wade Wilson | '24 | Ag. | Taylor |
| Barlow, Hayden Samuel | '25 | AA. | Kerens |
| Barnes, Joe Wellington, Jr. | '25 | AA. | McKinney |
| Barnes, Thomas Gerald | '25 | Ag. | Port Arthur |
| Barnett, Marion Bland | '24 | Ag. Eng. | McKinney |
| Barrenechea, Francisco A. | | M 1. | Mexico City, Mex. |
| Barron, L. H. | | C 1. | Palmer |
| Bartholomew, Robert O. | '24 | ME. | Dallas |
| Bartlett, Joseph Webster | '23 | ChE. | Dallas |
| Bartlett, Robert Wilbur | '25 | ME. | Dallas |
| Bartlett, Silas Conoly | '24 | AA. | Marlin |
| Barton, Jack, Jr. | '25 | Ag. | Bastrop |
| Barton, Julian Cox | '25 | CE. | Corsicana |
| Baskett, John Lewis | '22 | CE. | Dallas |
| Baskin, Benajah Jefferson | '22 | Ag. | College Station |
| Bass, Nelson Ives | '23 | EE. | Hubbard |
| Bate, Irion | '24 | EE. | San Augustine |
| Batis, Noah Ira | '25 | AA. | Sanger |
| Batot, Milton John | '25 | Ar. | Hondo |
| Baty, James Bernard | '24 | CE. | Taylor |
| Bauer, William Clifford | | C 1. | Belton |
| Baum, Oscar Samuel | | H 2. | Houston |
| Baur, Louis William August | '22 | ME. | Moulton |
| Baxt, David | '25 | Ag. | San Antonio |
| Bayley, Clyde | '25 | EE. | Goldthwaite |

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| Beale, Requa Leonard | '23 EE | Fort Worth |
| Beavan, Reginald Arthur | C 1 | Plas Celyn, England |
| Beazley, William Henry | '23 ME | Crockett |
| Beckworth, Hansel Thomas | '25 Ag | Sinton |
| Beesley, Ben Branson | '22 CE | Lancaster |
| Behymer, Malcolm Harold | '25 EE | Longview |
| Belcher, William Ira | C 1 | Sanderson |
| Bell, Daniel Grafton | '25 EE | Hereford |
| Bell, Francis Leonard | '22 CE | Marshall |
| Bell, Henry Newton, Jr. | '25 Ag | Sayersville |
| Bennett, Henry Clair | '25 EE | Fort Worth |
| Bennett, Vol, Jr. | '22 Ag | Cuero |
| Benson, Samuel Virginius | '25 CE | Camden, Arkansas |
| Berendt, Elmore Frederick | '25 EE | San Antonio |
| Berger, Lewis Audrey | '25 Ag | Flatonia |
| Bergman, James Otto | '25 EE | Livingston |
| Berry, Edward McKinley | '25 AA | Groveton |
| Berry, Robert Emette | Sp. Ag | Mesquite |
| Berryman, Christopher Columbus | Sp. Ag | College Station |
| Bertrand, Louis Oge | '24 EE | San Antonio |
| Best, Richard Albin | '23 TE | Houston |
| Beynon, Eugene Thomas | Sp. AA | Corpus Christi |
| Bickel, Aldis | '25 EE | Era |
| Biggs, Louie Leslie | '25 CE | San Antonio |
| Billingsley, Bruce Calder | '22 ME | Galveston |
| Bilasing, Sherman W. | Sp. Ag | College Station |
| Bimmerman, Harry Gordon | '22 ChE | Sherman |
| Bimmerman, Paul Henry | '22 ChE | Sherman |
| Birdwell, Leroy | '24 Ag. Eng. | Overton |
| Bizzell, William Sangster | '22 CE | College Station |
| Black, Alan Rolland | '24 CE | Ingleside |
| Black, John Palmer, Jr. | '25 EE | Temple |
| Black, Thomas Reaves | C 1 | Morgan |
| Blackberg, Sol Nathan | Sp. Ag | College Station |
| D. V. M., Cornell University, 1917. | | |
| Blackford, John M. | N 2 | Delavan, Wisconsin |
| Blankinship, Wallace B. | '25 Ag. Eng. | Lubbock |
| Blann, Richard Adell | '25 EE | Marlin |
| Blaschke, Raymond George | C 2 | Skidmore |
| Blevins, Edward | '25 EE | DeQueen, Arkansas |
| Blount, Wilfred Garrison | '23 Ag | Nacogdoches |
| Blum, Charles James | '23 EE | San Antonio |
| Bock, Isadore | '25 ME | Dallas |
| Bodine, Newton Barnart | '24 CE | San Angelo |
| Boger, Allen Dickson | '24 ME | Vernon |
| Bone, Harry de Ponta | '25 CE | Dallas |
| Bone, Norfleet Giddings | Sp. Ag | Richardson |
| Boney, Joseph Warren | Sp. Ag | Bedias |
| Bonnett, Ralph Gazelle | '24 AA | San Antonio |
| Boone, Foster James | Sp. Ag | Fort Worth |
| Boone, Lloyd Bates | '24 AA | West |
| Booth, Herbert Gordan, Jr. | '25 CE | San Antonio |
| Boriskie, Frank William | '22 CE | Bryan |
| Bose, John Carlos | '23 CE | San Antonio |
| Bothe, Roland Charles | '25 TE | Seguin |
| Bourke, Lionel Joseph | '22 EE | Yoakum |
| Bowden, Edward Lane | '24 Ag | Lockhart |
| Boyett, Charles Comer | '25 Ag. Eng. | Hope, Arkansas |
| Boykin, Gerland Lester | '22 Ag | Polytechnic |
| Bozek, Willie | M 1 | Ennis |
| Bradford, Jim Bucknell | '23 Ag | Memphis, Tenn. |

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| Bragg, J. Edward | '25 CE | Liberty Hill |
| Brandt, Edward Dupree | '23 CE | Temple |
| Brauner, Victor James | '22 VM | San Antonio |
| Brazelton, Andrew Jackson | '25 ChE | Palestine |
| Bridges, Robert Earle | '22 CE | Texarkana |
| Bridges, William Walter | '23 Ag | Glen Rose |
| Brient, Albert Sidney | '25 AA | San Antonio |
| Brisson, Ross Harrison | '23 Ag | Pittsburg |
| Broach, Douglas | '25 ME | Bryan |
| Broad, John Franklin | '25 Ag | Austin |
| Brooks, George Winston | '25 EE | Navasota |
| Brooks, James Robert | Sp. Ag. Ed. | Pilot Point |
| Brouer, Orville Ariel | '25 ChE | Fort Worth |
| Brown, Ben Franklin | '23 Ag | Rockwall |
| Brown, Dewey Clark | Sp. ME | Aledo |
| Brown, Edgar Allen | '24 CE | Fort Worth |
| Brown, Francis Elmo | '25 EE | Mineola |
| Brown, Gilbert Humphrey | '23 ME | Berwick, La. |
| Brown, Joe Carraway | '22 Ag | Waco |
| Brown, James Sylvester | '25 EE | Rising Star |
| Brown, Melville Campbell | '25 Ag | Fort Worth |
| Brownlee, Alfred Perian | '24 TE | Dallas |
| Broxton, Malcolm Irwin | '23 Ag | Rockdale |
| Broyles, James E. | N 1. | Riverside |
| Brummett, Burette Bassett | '24 Ag. Eng. | Scranton |
| Bryan, Arthur Hampton | C 2. | Richmond |
| Bryan, Clifford LaFayette | '25 ME | Weatherford |
| Bryan, James Robert | Sp. Ag. Eng. | Piano |
| Buchan, Fritz Emil | '22 ChE | Galveston |
| Buchanan, John Franklin | '25 Ag | Plainview |
| Buchanan, Spencer Jennings | '25 CE | Yoakum |
| Buck, Erwin Oscar | '25 EE | Beaumont |
| Buckley, Charles Clark | '25 CE | Jourdanton |
| Buckley, Joseph Claude | Sp. AA | Grafton, Australia. |
| Buckner, Floyd King | '23 CE | Weatherford |
| Buehrer, Walter Conrad | '25 TE | Brenham |
| Buescher, LeRoy August | '23 CE | Smithville |
| Buescher, Norman Emil | '22 Ag | Smithville |
| Buford, Hal Hickman | '25 Pre-Med | Minter |
| Bullock, Wendell Barnes | '23 EE | Weatherford |
| Bunker, Sterling Chester | '25 Ar. | Port Arthur |
| Burden, John Paul | '25 CE | Gordonville |
| Burkhart, Fred Charles | '25 ChE | Houston |
| Burleson, Richard Adair | '25 CE | Waco |
| Burmeister, Gustave | '23 Ag | Christine |
| Burnam, Robert Maurice | '25 Ag. Eng. | Marble Falls |
| Burns, Leslie Lewis | '22 EE | Yoakum |
| Burns, Patton Wright | '23 Ag | Cuero |
| Burns, Ross Calvin | Sp. Ag. | Sycamore |
| Burns, William Wright | N 2. | Lamesa |
| Burr, James Ballantyne | '22 EE | Dallas |
| Burrow, Herbert A. | H 2. | Nordheim |
| Burrows, Preston Scott | '25 EE | Granger |
| Burt, Jesse Franklin | '25 ChE | San Antonio |
| Burton, Miles Kirk | '25 AA | Galveston |
| Bussey, Emmett D. | Sp. Ag. Ed. | Ennis |
| Byler, Weldon Bailey | '25 EE | Blanco |
| Bynum, William Arnice | '24 ChE | Midlothian |
| Byron, Leonard Attwell | '22 ME | Weatherford |
| Calder, Rhoden | '25 Ag. | San Antonio |

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| Caldwell, Roscoe Leonidas | '25 CE | Seymour |
| Caldwell, Will Howard | '25 AA | La Grange |
| Callan, James, Jr. | C 1 | Menard |
| Callaway, George Newton | '25 CE | Palestine |
| Callaway, Lester Howard | '25 EE | Crockett |
| Calvin, Elmer Ben | '24 CE | Markley |
| Camp, Charles Walter | '25 Ag | Brownwood |
| Campbell, Roy Baker | '25 Ag | Seguin |
| Canion, Claude | '24 VM | Port Lavaca |
| Cappleman, Lester James | '24 Ag | Honey Grove |
| Carleton, Robert Earl | Sp. Ag | Spur |
| Carlisle, John Taylor | '22 Ag | Houston |
| Carlton, Duane William | '23 Ag | Fort Worth |
| Carlton, Melvin Walter | '25 Ag | Pleasanton |
| Carlton, Robert Ardine | '24 EE | Fort Worth |
| Carmichael, John Fears | Sp. Ag | Granbury |
| Carpenter, Kirby Custer | Sp. Ag | Sudan |
| Carroll, Bond Ernest | N 2 | Houston |
| Carroll, Hugh Anton | '23 EE | Galveston |
| Carroll, Homer Clarence | '24 CE | Dallas |
| Carruth, Otis Hobert | '25 EE | Pampa |
| Carruthers, Robert Loney | '22 ChE | Fort Worth |
| Carson, Alfred Doughton | '24 Pre-Med | Bryan |
| B. S., A. and M. College of Texas, 1918. | | |
| Carson, Charles Willis | '22 CE | Eagle Pass |
| Caruth, Charles Francis | M 1 | Gatesville |
| Casady, Kenneth Boyce | H 2 | La Porte |
| Caton, Thomas Wayne | '25 EE | Clarksville |
| Causby, J. Allen | '25 EE | Crandall |
| Cejka, Fred George | Sp. Ag | Sublime |
| Chambers, Chester Hall | '22 Ag | Harlingen |
| Chambers, John Bennette | '23 Ag | Harlingen |
| Chamlee, Fred Fearnot | '25 EE | Gatesville |
| Chandler, Joe N. | '25 ME | Weatherford |
| Chang, Ching Yueh | Sp. Ag | Taiping fu, Anhwei, China |
| Chapa, Emilio | '24 Ag | San Antonio |
| Chapman, Clifford Grady | N 1 | Forney |
| Chapman, Dewitt Charles | '24 Ag | Waco |
| Chapman, Howard Eugene | '25 EE | Clarksville |
| Chapman, Joseph Burdette | '25 EE | Texas City |
| Chapman, Marvin D. | C 1 | Bastrop |
| Chapman, Stanley Parks | '25 EE | Hutchins |
| Chappelle, Hugh Lyman | Sp. ME | College Station |
| B. S., A. and M. College of Texas, 1920. | | |
| Chase, Robert Harold | '25 ChE | Galveston |
| Chastun, James Henry | Sp. Ag | Bryan |
| Cherry, Robert Leslie | '24 Pre-Med | Giddings |
| Chisholm, Cecil Jackson | '24 EE | Waco |
| Choate, Marcos Hays | C 2 | Kenedy |
| Christopher, Uriel Echols | '22 Ag | Plano |
| Cimo, Philip | '24 Ag. Eng. | Waco |
| Clampitt, Ray Mansker | Sp. Ag | Ballinger |
| Clanton, Raleigh Wells | '22 EE | Dallas |
| Clark, Alton Renerrick | '24 EE | Cross Plains |
| Clark, Ben C. | Sp. Ar | Cleburne |
| Clark, Charles Richard | '22 EE | San Antonio |
| Clark, Joe Calhoun | '25 CE | Ector |
| Clark, Prior H. | C 1 | Hillsboro |
| Clarke, Charles Cecil | '22 Ag | Little Rock, Ark. |
| Clarke, Jordan Lee | '25 ChE | San Antonio |

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| Clarke, James Tidmarsh | '24 ChE | San Antonio |
| Clarke, James Walter | H 2 | Comanche |
| Clay, Louis House | '24 ME | Fort Worth |
| Clayton, Newton Halbert | '25 EE | Corsicana |
| Cleaver, Thurman Tennyson | '24 EE | Troup |
| Clement, George Kilgore | '24 EE | Cameron |
| Cleveland, Noah Alexander | Sp. Ag. Ed | Beaumont |
| Cleveland, Raymond Baker | '23 Ag | Osceola |
| Cline, William Benjamin, Jr. | '24 Pre-Med | Bryan |
| Cloer, Venus Uranus | '22 ChE | Pilot Point |
| Close, Cephas Major | '23 Ag | Dallas |
| Cloud, William Griffith | '25 Ag | Bryan |
| Coale, Cecil Roberts | '25 EE | Orange |
| Cochran, Burrell Banister | '22 ME | Houston |
| Cocke, Nalle | '25 CE | Waco |
| Cockrell, Thomas Jefferson | Sp. AA | Dallas |
| Coimbra, Joas | Sp. Ag | Pernambuco, Brazil |
| Coleman, Thompson Crawford | '25 ME | Wills Point |
| Colglazier, Robert Wesley, Jr. | '25 CE | San Antonio |
| Collins, Benjamin Fountain | C 1 | Galveston |
| Collins, Edward Schanck | '24 EE | Jefferson |
| Collins, Leon Liddell | '22 ChE | Floydada |
| Compton, Charles Reed | '23 Ag | Waco |
| Conley, Newton | '24 CE | Perryton |
| Connor, John Franklin | '25 Pre-Med | Waco |
| Contreras, Herman Howard | '23 ME | Rio Grande City |
| Cook, Charlie Cottingham, Jr. | N 2 | Maxwell |
| Cook, Dugger Elmus | '25 AA | Gilmer |
| Cooper, Forrest Walter | '24 Ag | Center |
| Cooper, John Prentiss | '25 CE | Dallas |
| Copeland, Clinton Marion | Sp. CE | Graham |
| B. S., A. and M. College of Texas, 1918. | | |
| Corbett, William Carl | '24 TE | Fort Worth |
| Cordell, Ben Early | '23 CE | San Antonio |
| Coston, John Edward | '25 EE | Brownwood |
| Cottingham, William Kellie | '24 Ag | Milford |
| Covert, John Paulhamus | Sp. Ag | Dallas |
| Cowan, Paul | '24 Ag | Dallas |
| Cox, Carl | C 1 | Palmer |
| Cox, Demmie Herbert | '24 Ar | Houston |
| Cox, Martin Virgil | C 1 | Bertram |
| Cox, Roland O | '25 TE | Garrett |
| Craig, Charles Lawson | '25 Ag | Brookston |
| Craig, William Guy | '25 Ag | Brookston |
| Crandall, Charles Andrews | H 1 | Groton, Conn. |
| Crane, Clyde C | '22 ChE | Wichita Falls |
| Crass, Johnnie Bartie | '25 ME | Electra |
| Crawford, James M | '22 EE | Devine |
| Crawford, Leonard Hayden | '25 CE | Duncan, Okla. |
| Crawford, Robert Allison | '25 ME | San Antonio |
| Creed, Reginald Farquhar | '25 ME | Bryan |
| Cretian, Paul D | '22 ChE | Dallas |
| Creveling, DeWitt, Jr. | '25 Ag | San Luis Potosi, Mexico |
| Crews, David Cullen | C 1 | Sabinal |
| Crisp, Albert Sidney | Sp. Ag | Dallas |
| Crites, Edwin Albert | '22 ChE | Houston |
| Crockett, Robert Slater | '24 ChE | Chapel Hill |
| Crosnoe, Clyde Cecil | '24 Ag. Eng. | Hope, Arkansas |
| Cross, Harry Bristol | '25 CE | Denison |
| Crow, Clarence L | Sp. Ag | Groveton |

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| Cruikshank, John Pownall..... | '22 EE..... | Corpus Christi |
| Cunningham, John Frank..... | '24 ChE..... | Fort Worth |
| Currie, John Felix..... | '22 ChE..... | Houston |
| Currie, Victor Monte..... | '24 CE..... | Houston |
| Curry, George Geoffrey..... | '25 AA..... | Bay City |
| Curtis, Thomas Sanford..... | '25 AA..... | Wills Point |
| Cushing, Emory Clayton..... | '23 Ag..... | Stockdale |
| Dahlberg, Frank Iver..... | '25 Ag..... | Taylor |
| Dahlberg, Gunnard Alvin..... | '23 Ag..... | Taylor |
| Damon, Archie Mayfield..... | '25 Ar..... | Houston |
| Daniel, James R..... | '25 ME..... | Gonzales |
| Darby, Eugene Benjamin..... | '24 CE..... | Houston |
| Dart, Miles Ethelbert..... | '24 EE..... | Dallas |
| Dashiell, George R., Jr..... | '25 ChE..... | San Antonio |
| Davidson, Charles Eugene..... | '22 EE..... | Bay City |
| Davidson, Charles Lee..... | '25 AA..... | Richmond |
| Davidson, Green Adkins..... | '24 Pre-Med..... | Caldwell |
| B. S., A. and M. College of Texas, 1920. | | |
| Davidson, Jasper Ashworth..... | '22 Ag..... | New Boston |
| Davidson, Ray Elmer..... | Sp. EE..... | Pearland |
| Davidson, Walter H..... | '24 CE..... | Fort Worth |
| Davis, Clifford Charles..... | '25 Ag..... | Neches |
| Davis, Charlie Howard..... | '22 EE..... | Waxahachie |
| Davis, David..... | Sp. Ag..... | Corsicana |
| Davis, Edgar Albert..... | '25 TE..... | Itasca |
| Davis, Harry Claiborne..... | '22 ME..... | Dallas |
| Davis, James Herbert..... | '25 EE..... | Lockhart |
| Davis, Kenneth Edwin..... | '25 CE..... | Mansfield |
| Davis, Roger Floyd..... | '22 ChE..... | Whitewright |
| Davis, Roy Francis..... | '24 CE..... | Nacogdoches |
| Davis, Thomas Clement..... | '23 AA..... | Marfa |
| Dealy, Marvin Edward..... | '25 Ag..... | Houston |
| Dean, Robert William..... | '25 Pre-Med..... | Navasota |
| DeAsis, Guillermo..... | '24 Ag..... | Dumangas, P. I. |
| Deden, Edward Martin..... | C1..... | Houston |
| Deering, Perry Allen..... | Sp. Ag. Ed..... | Millican |
| DeLange, Walter Howard..... | '24 CE..... | Sherman |
| DeLee, Herbert Everard..... | Sp. EE..... | Dallas |
| Denham, Claude Spaulding..... | '25 EE..... | Lubbock |
| Denison, Ethelbert Bunker..... | '24 EE..... | Waco |
| Denk, Clarence George..... | Sp. Ar..... | Cicero, Ill. |
| DePasquale, Domenic Victor..... | '24 CE..... | Dickinson |
| Detering, Herman Eberhard..... | '25 AA..... | Houston |
| DeuPree, Elijah Julius..... | '25 ME..... | Crockett |
| Dewey, Edward Leon, Jr..... | '25 ME..... | Tulahoma, Tenn. |
| Dibble, Jasper Coopsey..... | Sp. TE..... | Valley Stream, N. Y. |
| Dickson, Hugh..... | H 2..... | Galveston |
| Dietrich, Arthur Frederick..... | '22 Ag..... | Dallas |
| Dillingham, Harley Clay..... | '22 EE..... | Fort Worth |
| Dilworth, James Colwell, Jr..... | C1..... | Gonzales |
| Dinan, Leonard Frederick..... | '22 Ag..... | Silsbee |
| Dinwiddie, Otto Dudley..... | '22 Ag..... | Tulia |
| Dockum, Oscar Leonard..... | '22 ME..... | Corsicana |
| Dodd, Barney Airheart..... | '25 Ar..... | Yoakum |
| Dodd, Herbert Arthur..... | '25 Ag..... | Langtry |
| Dodge, Lee..... | '24 ChE..... | Abilene |
| Dodson, Lewis..... | '25 Ag..... | Amarillo |
| Dodson, Samuel Breeding..... | '25 Ag. Ed..... | College Station |
| Doherty, Wilfred Thomas..... | '22 ChE..... | Mercedes |
| Donald, Pryor..... | '24 Ag..... | Fort Worth |

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| Dougherty, Harry, Jr. | '22 EE | Blackwell, Okla. |
| Douthit, Lawrence Henry | Sp. AA | Dallas |
| Dowlen, Glen Wade | C 1 | Happy |
| Downs, Frederick Holston, Jr. | '23 Ag | Fal, La. |
| Drake, Rowe Shear | '25 EE | Winchester |
| Dreeke, Harold Lewis | '22 Ar | San Antonio |
| Dreyfuss, Arthur J. | '24 CE | San Antonio |
| Driggs, Orval Truman | N 2 | Talihina, Okla. |
| Drisdale, John Virg | '24 Ag | Juno |
| Drummett, Paul Wright | '22 EE | Houston |
| DuBois, Harold Vantrese | '24 TE | Dallas |
| Duckett, Harris Davis | '25 Ag. Eng. | Houston |
| Dudley, Daniel Ishom | '25 Ag | Plano |
| Duff, Emory | N 1 | Galveston |
| Dugosh, Raymond Adolph | '25 CE | San Antonio |
| Duke, Ernest Ray | '25 Ag | Claude |
| Dulaney, Ruel Noble | '25 EE | Mart |
| Dunn, Herman | '23 ChE | Dallas |
| Dunn, James Howell | '25 ME | Dallas |
| Dunnam, Leigh Keats | '24 ME | Corpus Christi |
| Dunnam, Samuel Whittington | '25 ME | Corpus Christi |
| Dwyer, Patrick Anthony | '22 AA | San Antonio |
| Eargle, Robert Gray | '25 EE | Fort Worth |
| Earle, John Sears | '24 TE | Waco |
| Easton, Robert Browning | '23 Ag | Sinton |
| Ebeling, Leo Reynold | '22 ME | Plainview |
| Eby, Albert Newman | '25 EE | Austin |
| Edds, George Henry | '25 AA | Hebbronville |
| Edgley, Max | '24 ChE | Port Arthur |
| Edmonson, Joe Meredith | N 1 | Waxahachie |
| Edmundson, James Stith | '25 CE | Waco |
| Edwards, Cyrus Leroy | '24 ME | San Antonio |
| Egan, Allen Lyman | '23 Ag | Dallas |
| Ehlert, Robert Jerome | '22 Ag | Houston |
| Eitt, Henry William | '25 EE | San Antonio |
| Elder, Theodore Allen | '25 Ag | Palacios |
| Elkins, Leota Walter | Sp. Ag | Tulia |
| Elliott, Arthur Lee | '25 ChE | Corsicana |
| Elliott, Lawrence Clifton | '25 EE | Greenville |
| Elliott, Ray | Sp. Ar | Logansport, La. |
| Ellisor, Grover C | Sp. Ag | Evergreen |
| El Nouty, Abd El aziz Hassan | '25 Ag | Cairo, Egypt |
| Engel, Kenneth Earl | '25 EE | Seguin |
| England, Robert Raymond | '23 Ag | Williamsburg, Pa. |
| Epperson, Roswell Stewart | '25 Pre-Med | Cameron |
| Erskine, Alexander Madison | '24 CE | San Antonio |
| Erwin, Will Bailey | '24 ME | Fort Worth |
| Eschenburg, Carl Robert | '24 ChE | Floresville |
| Estep, Forest Lynn | '25 ME | Dallas |
| Eubank, Bransford | '22 Ag | Byrds |
| Eubank, Broocke Knight | '24 ChE | Cross Plains |
| Evans, Andrew Jackson | '25 EE | San Antonio |
| Evans, Jewel Jones | '25 ME | El Campo |
| Everett, William Joseph | '23 EE | Fort Worth |
| Ewbank, Eric Erroll | '24 EE | San Benito |
| Fahey, Gerald Calhoun | '22 Ag | Navasota |
| Fair, Dewald L | Sp. Ag | Hillsboro |
| Fancher, Ben Bedford | '25 EE | Seymour |
| Farmer, William Harold | '24 IE | College Station |

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| Farquhar, Robert Edward | '25 CE | Ennis |
| Fason, Eugene B | '22 EE | Waco |
| Faulk, Nathan Morris | '25 EE | Corpus Christi |
| Faulkner, Richard Campbell | '22 CE | Sherman |
| Faure, Leonard Leopold | '23 ChE | Houston |
| Fawcett, Horace Keyes | '25 Ag | Del Rio |
| Fay, Owen James | '24 EE | Taft |
| Fenstermaker, Arthur | '24 Ar | San Antonio |
| Ferreira, Jose Constantino | Sp. Ag | San Carlos-Sud, Argentine, S. A. |
| Ferrucci, Ferruccio Joseph | '24 Ar | Galveston |
| Field, Stanton McNeal | '25 CE | Lockhart |
| Field, William West | '24 CE | Lockhart |
| Finks, Jack Eubank | '25 Ag | Austin |
| Finney, Clarence Jack | '22 Ar | Wills Point |
| Fischer, Chester Fred | '22 ME | New Braunfels |
| Fisher, Norman | '25 ME | Cuero |
| Fitzwilliam, Morgan Sayers | '23 EE | Smithville |
| Flinn, Fontaine Edward | '22 Ag | Cameron |
| Flinn, James Eber | '25 AA | Cameron |
| Flint, William Edwin | '25 Ag | San Antonio |
| Flowers, Alsop Edward | '25 ChE | Dallas |
| Floyd, Charles Henry | '24 EE | Cisco |
| Foerster, Alvin E | '25 AA | Rosenberg |
| Foester, Louis | '25 Ag | Port Lavaca |
| Ford, Billie Lester | '25 CE | Greenville |
| Forga, Louis Alfred | Sp. Ag | Arequipa, Peru, S. A. |
| Forgason, Jack Pope | '25 Ag | San Antonio |
| Forgason, James Yewell | '25 AA | San Antonio |
| Forrest, Francis Bedford | '23 Ag | Waxahachie |
| Forrester, Vade Giles | '25 Ag | Belton |
| Forsyth, David Manson | '22 ME | McKinney |
| Foster, Carroll Conyes | '25 EE | Plano |
| Foster, Robert Field | '24 ME | Fort Worth |
| Foster, Thomas Orion | '22 CE | San Antonio |
| Foster, Willett Sims | '22 Ag | Marlin |
| Fountain, Eugene Royce | '25 CE | Ennis |
| Fountain, James Milton | '24 AA | Bryan |
| Fouraker, Robert Winston | '22 ChE | Dallas |
| Fram, Phillip | '23 CE | Dallas |
| Franck, Sol Rheim | '24 ME | San Antonio |
| Franke, Nonnonie Leland | Sp. Ag | El Campo |
| Franke, Paul Conrad, Jr. | '22 TE | El Campo |
| Fraps, George Saunders | '25 ME | College Station |
| Frary, Rodney William | Sp. CE | College Station |
| Fraser, Claud Kirk | '23 Ag | College Station |
| Frazier, Oscar Howard | '22 Ag | Hillsboro |
| Frede, Leo Henry | '22 Ag | La Grange |
| Frederick, Wayne B | '25 AA | Blooming Grove |
| Frederick, William Richard, Jr. | '25 CE | Fort Worth |
| Freeborough, Benjamin Bonnett | '25 CE | San Antonio |
| Freeman, Ernest Maynard | '22 CE | Marshall |
| Freese, Thomas Wilk | N 1 | Blossom |
| Freire, Floriano A | '25 CE | Rio Grande do Norte, Brazil |
| Frey, Harry Frederick | '25 EE | San Antonio |
| Friedlander, Louis Herman | '22 ChE | Calvert |
| Fritchie, Charles Julius | '25 CE | Slidell, La. |
| Fritts, Kye | Sp. Ag | Comanche |
| Fry, Cecil | '25 Ag | Pike |

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| Fuchs, Joseph..... | '22 ChE..... | Cypress Mills |
| Fuqua, Claude Clement..... | '24 ChE..... | Pineville, La. |
| Furneaux, William Frederick..... | '22 Ag..... | Dallas |
| Fuston, Robert Lee..... | '25 EE..... | Waco |
| Gaddis, Harry Passmore..... | '25 AA..... | Cotulla |
| Gaines, Richard Houston..... | N 1..... | Detroit |
| Gainey, Walter Clarence..... | '24 Ag..... | Grapeland |
| Galbraith, John Warren..... | '25 CE..... | Belton |
| Galbraith, Oliver, Jr..... | '25 ME..... | Pine Bluff, Ark. |
| Gandy, Rema Estus..... | '25 CE..... | Bryan |
| Gardner, James Eldridge..... | '22 Ar..... | Comanche |
| Gardner, Marion Bernard..... | Sp. TE..... | Tyler |
| Garitty, Benjamin Joseph..... | '22 EE..... | Corsicana |
| Garland, Loyd..... | '23 Ag..... | Hope, Arkansas |
| Garnett, Edward Winne..... | '23 CE..... | Denton |
| Garrett, George Moss..... | '23 CE..... | Paris |
| Garrett, Richard Lawrence..... | '24 EE..... | Weimar |
| Garry, Mahon Barker..... | '25 Ag..... | Taylor |
| Gaston, Eldred Lenox..... | '25 AA..... | Nacogdoches |
| Gaston, Edwin Willmer..... | '24 AA..... | Nacogdoches |
| Gaston, Thomas Lee, Jr..... | '24 AA..... | Myra |
| Gatlin, Carl Earl..... | '25 AA..... | Miami |
| Gatlin, Eugene N..... | '24 Ag. Eng..... | Ladonia |
| Gay, Samuel Junious..... | '23 Ag. Ed..... | Moscow |
| Gelber, Isidore..... | '25 Ag..... | Bryan |
| Gentry, Oliver Curtis..... | '25 Ag..... | Acme |
| Gibson, Alonzo Newton..... | '25 EE..... | Gainesville |
| Gibson, Donne Evans..... | Sp. ME..... | Port Lavaca |
| Gibson, Estell L..... | '25 CE..... | Burkburnett |
| Gibson, Kerr..... | '24 EE..... | Lufkin |
| Gibson, William Meade..... | '24 ChE..... | Commerce |
| Giffin, Horace Adelbert..... | C 1..... | Sabinal |
| Gilchriest, Eugene Daniel..... | '25 Ag..... | Bon Wier |
| Giles, Dorris David..... | '22 VM..... | Houston |
| Gill, E. King..... | '25 AA..... | Dallas |
| Gill, Robert Lee Roy..... | Sp. Ag..... | Normanna |
| Gilley, Thomas G..... | '23 EE..... | Caldwell |
| Gilliland, Samuel Walter..... | C 2..... | Decatur |
| Ginn, Victor Lovelace..... | '24 ME..... | Granbury |
| Gips, Manfred Otto..... | '25 EE..... | Yorktown |
| Gist, Marcus..... | Sp. Ag..... | Odessa |
| Glass, Clark..... | '25 AA..... | Gilmer |
| Glazener, Verna Ray..... | '22 Ag. Ed..... | Fairfield |
| Glenney, Ralph H..... | '25 ME..... | San Antonio |
| Gohlke, Venor Herbert..... | '25 ChE..... | Cuero |
| Gohmert, Edward Herman..... | '24 Ag. Eng..... | Yorktown |
| Golasinski, Leonard Bernard..... | '25 ME..... | Houston |
| Golden, Charlie Harry..... | '22 EE..... | Fort Worth |
| Gomez, Federico..... | '25 Ag..... | Monterey, Mexico |
| Gonzales, Rafael..... | '25 ME..... | San Antonio |
| Goodenough, Herbert Francis..... | '25 ME..... | Alice |
| Gorman, Carl Frederick..... | '24 CE..... | Winnboro |
| Gorman, John Alexander..... | '23 Ag..... | Beaumont |
| Goss, Harvey Theo..... | '22 ME..... | Abilene |
| Goss, Henry Volandis..... | '25 ME..... | Abilene |
| Gould, John Thomas..... | Sp. Ag..... | Maysfield |
| Govea, Herminio..... | '23 Ag..... | Torreón, Mexico |
| Grace, John Floyd..... | '25 Ag..... | Bishop |
| Graham, Calhoun McCulloch..... | '24 Ag..... | Bryan |

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| Graham, Jose Carlos | '22 Ag | Forlon, Tamps, Mexico |
| Graves, John Arthur | '24 Ag | East Andover, N. H. |
| Gray, Benjamin Frank | '25 Ag | Slocum |
| Gray, William Fred | '24 Ar | Beaumont |
| Green, James Lee | Sp. Ag | Bailey |
| Green, Sidney Minton | '25 AA | Denison |
| Green, William Levis | '25 ME | Marshall |
| Greening, Kenneth Gilbert | '24 TE | Hope, Arkansas |
| Greenslade, Vivian Rolston | '25 AA | Kaufman |
| Greenstreet, Wilbur Horace | '25 EE | Laredo |
| Greer, Dewitt Carlock | '23 CE | Pittsburg |
| Greer, Lainer | '24 EE | San Antonio |
| Gregory, Clyde Rivers | N 1 | Brookshire |
| Griffin, George Bradford | '24 EE | Henderson |
| Griffin, Ralph Eugene | N 1 | Dallas |
| Griffith, Fuller Orville, Jr | '23 EE | Quanah |
| Griffith, Lawrence Henry | '25 CE | Quanah |
| Grisson, Samuel Benson | '25 ME | Granbury |
| Groce, Byrnie E | M 1 | Lometa |
| Groginsky, Ross Lee | '25 CE | Bryan |
| Grothaus, Frederick Edward | '22 CE | San Antonio |
| Grover, Orion Andrew | H 1 | Houston |
| Grover, Rufus Markham | '25 EE | Houston |
| Guiberson, Harry Ronald | '24 Ar | Seattle, Wash. |
| Guion, Wade Fentress | '25 ME | Austin |
| Gulley, Luallen | Sp. Ag | DeBerry |
| Gunter, Elma Curtiss | '25 AA | San Angelo |
| Gunter, Herbert L | '25 Pre-Med | Plainview |
| Gurinsky, Wolford Lowell | '25 ChE | Gonzales |
| Gurwitz, Jacob Alexander Marcus | '22 EE | San Antonio |
| Gustavus, Onnie C | Sp. Ag | Bryan |
| Guthrie, Syle Yoakum | '25 ME | Dallas |
| Guynes, John Rice | '22 TE | Chatfield |
| Hail, William Dudley | '24 Ag | Crockett |
| Hailey, Cyrus Hale | '23 Ag | Marlin |
| Hairston, Charles L | '25 ME | Bartlett |
| Hairston, Robert Roy | '24 AA | Timpson |
| Hale, Fred | '22 Ag | Tulia |
| Hale, Will Carlton | '23 Ag | Abilene |
| Haley, William Byron | Sp. Ag | Oakwood |
| Hall, Russell Winston | '22 ChE | Robstown |
| Hallaran, Raymond Patrick | '25 EE | Fort Worth |
| Hamilton, Harry Blaine | '25 AA | San Antonio |
| Hamilton, Olan Harvey | '23 ChE | Bonham |
| Hamilton, Vivian Earle, Jr | '25 EE | San Antonio |
| Hamilton, William Brooks | '22 ME | Houston |
| Hammett, Homer Cicero | '23 EE | Jacksonville |
| Hanberry, William Frederic | '25 EE | Houston |
| Hancock, Austin Pruett | '25 CE | Fort Worth |
| Hancock, William Jennings | '24 ME | Paris |
| Haney, Oren Buel | '23 TE | Waco |
| Hanley, Robert Dellar | '25 ChE | Dallas |
| Hanly, Edward William | '22 Ag | Eagle Lake |
| Hanna, Frank W | '24 ChE | Georgetown |
| Hannaford, William Edwin | '22 CE | Granbury |
| Harbison, Dewitt Albert | '24 Ag | Granger |
| Hardman, Benjamin Joseph | N 1 | Leonard |
| Hardman, John James | '25 ChE | Leonard |
| Hardy, Augustus Lipscomb | '25 AA | Luling |

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| Hardy, Ernest Hugh | '25 AA | Abilene |
| Harlan, Sam | '24 ChE | Plainview |
| Harper, Benjamin Preston | '25 ME | Dallas |
| Harper, Floyd | Sp. Ag | Cooper |
| Harpole, Earl Yale | '24 ME | Houston |
| Harrell, Willis Horace | '24 Ag | Sherman |
| Harrington, Harold Ernest | '24 EE | Dayton |
| Harrington, Marion Tom | '22 ChE | Plano |
| Harris, Grady Woodfin | '22 Ag | Mobeetie |
| Harris, Hugh Kirkman | '25 Ag | Temple |
| Harris, James Buford | C 1 | Blooming Grove |
| Harris, Robert Emmett | '23 Ag | Walsenburg, Colo. |
| Harris, Will D | '24 CE | Quitman |
| Harrison, Bosie B | Sp. Ag | Detroit |
| Harrison, Bryan Payne | '25 AA | Palmer |
| Harrison, Robert Dittman | '25 EE | Alleyton |
| Harrison, Raymond John | '25 Ar | Waco |
| Harrison, Sam Evette | Sp. Ag | Bryan |
| Hartman, William | '25 CE | Lockhart |
| Hartshorn, Wallace B | '25 CE | Fort Worth |
| Hartung, George Herman | '22 ChE | Houston |
| Haslbauer, Herman | '24 ME | San Antonio |
| Hatfield, Theodore Cecil | '25 EE | Pottsboro |
| Hayes, Harold Fuller | '24 Ag | Chickasha, Okla. |
| Hayes, Jack Harper | '25 AA | Fort Worth |
| Haywood, Thomas Selman | '25 AA | Beaumont |
| Heald, C. Metza | '25 Ag | Anson |
| Heard, Herman Gordon | '23 AA | Bowie |
| Heartfield, Richard Cornish | '23 Ar | Sour Lake |
| Hefner, Frederick Spencer | C 2 | Bonham |
| Hegar, Walter | C 1 | West |
| Heger, Frank Ferdinand | '25 Pre-Med. | Shiner |
| Hemphill, Carthell Hubert | '25 EE | Mineola |
| Hendrick, Harold Eugene | '25 ChE | Paris |
| Henriques, Paulo de Miranda | Sp. Ag | Parahuba, Brazil |
| Henry, Charles Egbert | '25 AA | Navasota |
| Henry, Herman Kennedy | '24 Ag | Denison |
| Henry, Marion Bryan | '23 TE | Shelbyville |
| Hensarling, Thomas Andrew | '22 Ag | Bryan |
| Henslee, Selden Wood | '25 EE | Caldwell |
| Herrington, Harold Reeves | '25 ChE | Floresville |
| Herrling, Frederick Charles | '25 Ag | Kurten |
| Herrmann, Frederick Davenport | '25 Ag | Galveston |
| Herry, Benjamin Franklin | '25 CE | New Braunfels |
| Hester, Blum Elsworth | '25 Ar | Crockett |
| Hester, Stephen Garvin | '25 Ag | Thomas |
| Hiatt, Armstead Miller, Jr | '25 EE | Vernon |
| Hickman, James Butler | C 1 | College Station |
| Hicks, Fred Earl | '25 ME | Denver, Colorado |
| Hicks, Louis Sidney | '25 EE | Conroe |
| Higginbotham, Mack Whiteside | '24 CE | Alvin |
| Higginbotham, Wilbur | '25 ME | Dallas |
| Higgins, Oscar Lee | Sp. Ag | Cooper |
| High, William, Jr | Sp. Ag | Huntsville |
| High, Will Roy | C 2 | Blooming Grove |
| Hill, Jack Coleman | '24 AA | McKinney |
| Hill, Robert Dudley | '25 Ag | Dawson |
| Hill, Wendell H | '25 AA | Denton |
| Hilton, Neal Hamilton | '23 ME | College Station |
| Hinman, Edwin Adolph | '25 EE | San Antonio |
| Hoag, Harry Leroy | '24 CE | College Station |

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| Hobbs, Edward W. | Sp. Ag. | Rice |
| Hockaday, Harold Kerr | '25 Ar. | Cleburne |
| Hodge, John Frederick | '25 ME. | Hereford |
| Hodges, Lester B. | '22 VM. | Abilene |
| Hohn, Walter Louis | '25 Ag. | Nordheim |
| Holder, John Alma | '25 ChE. | Ardmore, Okla. |
| Holder, William Henry | Sp. Ag. | Waller |
| Holekamp, Otto C. | '24 EE. | Comfort |
| Holland, William Duane | '24 A. | Santa Anna |
| Holle, Henry A., Jr. | '25 A. Med. | Brenham |
| Hollowell, Glen Alonzo | '23 E. | Albany |
| Holmes, Charles Troy | Sp. CE. | Ashdown, Ark. |
| Holmgren, Elmer Neilson | '22 Ag. | San Jacinto |
| Hooks, Joseph Key | Sp. Ag. | Colorado City |
| Hooper, Robert Ellbert | '25 Ag. Eng. | Plainview |
| Hooten, Earl Arthur | C 2. | Sulphur Springs |
| Hope, W. Byron | '23 Ag. | Leonard |
| Hopkins, Bernard Huey | '25 Ag. | Thrall |
| Hopkins, Marks Warfield | '25 ChE. | Dallas |
| Hoppe, Adolph Bill | '22 ME. | Marble Falls |
| Hord, J. T. | N 1. | McGregor |
| Horn, William Christian | '25 Ag. | Montgomery |
| Horne, Oral Lee | Sp. Ag. | Maverick |
| Horton, Paul Ende | '25 EE. | Greenville |
| Hotchkiss, Oscar Theodora, Jr. | '24 ChE. | Bay City |
| Houston, Frank Norman | '22 CE. | Lake Charles, La. |
| Howard, Marshall Ray | '25 ChE. | Ardmore, Okla. |
| Howard, Robert Albert | '25 ChE. | Ardmore, Okla. |
| Howdeshell, Allen Dale | '25 EE. | Sherman |
| Howe, Jack Joseph, Jr. | '25 EE. | Sherman |
| Howell, Eugene Jody | '22 ChE. | Waco |
| Howell, John Burl | '25 AA. | Coleman |
| Howell, Leander D. | '22 Ag. | Bexar, Alabama |
| Howell, Rutherford Hayes | '22 Ag. | Bexar, Alabama |
| Howze, Albert Howell | '23 EE. | Houston |
| Hubby, Turner Erath, Jr. | '25 AA. | Waco |
| Hudgins, Jack W. | C 2. | Forney |
| Hudson, Charles Edward | '24 Ag. | Pine Bluff, Ark. |
| Hudson, Delma | '23 AA. | Mart |
| Huff, Arthur Weber | '25 EE. | Lyford |
| Huff, Calvin Ralph | '24 EE. | Lyford |
| Hughes, Justin Mendal | Sp. Ag. | Normal, Ill. |
| Hughes, William Hobson | '23 Ag. | Lyford |
| Hughs, Thomas Buford | Sp. Ag. | Shiner |
| Hugon, Lee Russell | '22 EE. | Gainesville |
| Hultgren, Hilmer Carl | '24 EE. | Ingleside |
| Hunnicutt, J. R. | '25 Pre-Med. | Marlin |
| Hunt, Asa Eugene | '22 EE. | Dallas |
| Hunt, Robert L. | Sp. Ag. | Omaha |
| Hunt, Zim | '25 TE. | Dallas |
| Hunter, Homer A. | '25 ME. | Fort Worth |
| Hurley, Charles Webster | '22 ChE. | Houston |
| Hurley, Timothy Donald | '24 Ag. | Chicago, Ill. |
| Hutchison, Theodore Julian | '25 AA. | Waco |
| Hutchison, Wallace Russell | '24 Ag. | Tulia |
| Hyland, George Gilbert | '24 ChE. | College Station |
| Ingram, Loyd Moses | N 1. | Decatur |
| Ingram, William H. | '23 EE. | Terrell |
| Irvin, Francis Vernon | '25 EE. | Bartlett |
| Irwin, Arthur James | '25 CE. | Galveston |

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| Irwin, Kenneth William | '25 ME | Teague |
| Jackson, Alvin Handley | N 1 | Gail |
| Jackson, Isaac Newton, Jr. | '25 AA | Abilene |
| Jackson, Sam | C 1 | College Station |
| Jacobson, John Edward | '25 CE | Texas City |
| Jaggi, Frederick Putman | '24 Ag | San Antonio |
| James, Hubert | '25 ME | Greenville |
| Jarvis, Billy | '25 Ag | Lieb |
| Jarvis, Raymond | '24 Ag | Lieb |
| Jenkins, B. L. | '22 Ag | Clarendon |
| Jinks, Leon Carlton | '22 Ag | West Columbia |
| Johson, Charlie Culbertson | '22 Ag | Mesquite |
| Johnson, Allen | '25 EE | Palestine |
| Johnson, Albert Sidney | '22 ChE | Dal'as |
| Johnson, Charles Basil | '25 Ag | Uvalde |
| Johnson, Harold Jefferson | '24 ChE | Chickasha, Okla. |
| Johnson, Howard Richard | '25 Ar | Paris |
| Johnson, Thomas Jesse | '24 Ar | Lufkin |
| Johnson, William Dunlap | '24 CE | Houston |
| Johnson, William Henry | Sp. Ag | Bryan |
| Johnston, Duard | '25 AA | Kingsville |
| Johnston, Ted | Sp. Ag | San Angelo |
| Jolliff, Lindsey Gaffard | '23 ME | Dallas |
| Jones, Beecher Calvin | Sp. ChE | Waco |
| Jones, Barton Douglas | Sp. Ag | Comanche |
| Jones, Charles Hal | '25 ME | Temple |
| Jones, Elmo McMullen | '25 EE | Coleman |
| Jones, John Dewey | N 1 | Bryan |
| Jones, John Harrell | '22 Ag | Windthorst |
| Jones, Lyman Burrell | Sp. Ag | San Antonio |
| Jones, Newton W. | '23 Ag | Windthorst |
| Jones, Thomas Lewis | '24 EE | Forney |
| Jones, Vernon Forest | '25 Ag | Glen Cove |
| Jordan, Willie Rogers | '22 Ag | Floresville |
| Josserand, Pierre L. | Sp. ME | Galveston |
| Joyner, Arthur Lee | '25 EE | Gainesville |
| Judd, Frank Wallace | '22 Ag | Fort Worth |
| June, Malcolm McClenthen | '25 ME | College Station |
| Kaigler, Willie Davis | '25 AA | Mart |
| Kalb, George Montgomery | '25 ME | San Antonio |
| Kasper, Charles | '25 CE | Shiner |
| Kaufman, Joe M. | '25 CE | Dallas |
| Kean, Edward Everett | Sp. ME | Cisco |
| Keathley, John A. | '25 Ag | Olney |
| Keen, Lowell Stockton | C 2 | Kerens |
| Keeton, Thaddeus Elton | '23 EE | Devine |
| Keith, Arthur Clinton | '22 ChE | Fort Worth |
| Keith, Darwin Howell | '25 EE | Fort Worth |
| Kelley, Alvin Elwood | '25 EE | Lockhart |
| Kendrick, Leighton Lorain | '24 Ag | Moody |
| Kennedy, Met. | '24 Ar | Tyler |
| Kennedy, Victor Runyan | '25 Ag | Crockett |
| Kerr, Eugene James | '22 ME | Havana, Cuba |
| Kerr, George Spears | '25 EE | Thurber |
| Kerr, Horace Scott | '23 CE | Amarillo |
| Kerr, James Fielder | '23 CE | Thurber |
| Ketchum, Everard Terrell | '25 AA | Navasota |
| Ketterson, John Boyd | '24 ChE | Houston |
| Key, Davis Leonidas | '22 Ag | Floresville |

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| Kimball, Otis Harold..... | '25 Ag..... | Alpine |
| Kimbrough, William Morton..... | '23 EE..... | Weatherford |
| Kindle, John Madison..... | '25 CE..... | McKinney |
| King, Charlie Joe..... | C 1..... | Batesville |
| King, Letcher Davis..... | '25 Ag..... | Abilene |
| King, Robert..... | '22 EE..... | Gatesville |
| King, William Casey..... | '25 TE..... | Denison |
| King, William Johnson..... | C 1..... | Gatesville |
| Kirkpatrick, James Alvis, Jr..... | '25 AA..... | Reagan |
| Kirkpatrick, Thagard Keith..... | '25 EE..... | Reagan |
| Kirkpatrick, William Davis..... | '23 Ag..... | Lewisville |
| Knapp, John Andrew..... | '22 TE..... | Calvert |
| Knapp, Walter Lee..... | '22 Ag..... | Calvert |
| Knickerbocker, Herman Willis, Jr..... | '25 Ag..... | Marlin |
| Knight, Cato M..... | Sp. Ag..... | Miller Grove |
| Knotts, William Henry..... | '25 CE..... | Kemp |
| Knox, Edward Warren..... | '22 EE..... | San Antonio |
| Koehler, Egan..... | '22 ME..... | La Grange |
| Koenig, Edgar August..... | '25 ChE..... | Bryan |
| Koerth, George Emil..... | '25 ChE..... | Yoakum |
| Kooistra, Jan..... | C 1..... | College Station |
| Kothman, Clarence Pete..... | C 1..... | Mason |
| Kotzebue, Roy Louis..... | '25 ME..... | Moulton |
| Kraft, Frederick M..... | '25 EE..... | Dalhart |
| Krause, Milton Waldo..... | '25 EE..... | La Grange |
| Kreusler, William..... | Sp. Ag..... | Cibolo |
| Krueger, Albert Theodor..... | '24 EE..... | San Antonio |
| Krueger, Gustav Robert..... | '25 Ar..... | San Antonio |
| Kubala, J. Frank..... | '25 EE..... | Granger |
| Kuehn, Edwin Erick..... | '24 EE..... | Taylor |
| Kuempel, Louis Gilbert..... | '25 EE..... | Pflugerville |
| Kunkel, Carl Mitchell..... | '24 ME..... | San Antonio |
| Kurtz, Lawrence A..... | '22 EE..... | College Station |
| Kuykendall, William Isaac..... | '25 Ag..... | Buda |
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| Lamb, David Ewing..... | C 2..... | Detroit |
| Lambert, Ward..... | '25 ME..... | Teague |
| Lamkin, James Boyd..... | '23 ME..... | Huntsville |
| Lancaster, Alexander Pope..... | '22 EE..... | Marshall |
| Lancaster, Jesse Cornelius..... | '24 Ar..... | Marshall |
| Landram, Addeson Bering..... | '22 Ag..... | Houston |
| Lang, John Joseph, Jr..... | '22 EE..... | Dallas |
| Langley, Byron Caldwell..... | '25 Ag. Ed..... | Bullard |
| Langlotz, Wilburn Edward..... | '25 ME..... | Fayetteville |
| Lankford, Harold Shipp..... | '24 CE..... | Golden |
| Larkin, James Charles..... | '25 CE..... | Bremond |
| Lasater, Fred..... | '25 Ag. Eng..... | Hope, Arkansas |
| Lasseter, William Ernest..... | '22 Ag..... | Henderson |
| Latham, William Enoch..... | '24 CE..... | Sulphur Springs |
| Lawson, Glenn Edward..... | '22 Ag..... | San Antonio |
| Lawson, William Jennings..... | '24 ChE..... | Austin |
| Lazenby, Otto Robert..... | '24 Ag..... | Waco |
| Ledbetter, John Jackson..... | '25 CE..... | Blytheville, Ark. |
| Lee, Fitzhugh..... | '25 Ag..... | Eckert |
| Lee, James Alexander..... | '25 EE..... | Houston |
| Lee, Samuel Dwight..... | '24 EE..... | Elizabeth, La. |
| Leiper, Sam Edward..... | '23 Ag..... | Weatherford |
| LeLaurin, Victor Gheral..... | '25 ME..... | San Antonio |
| LeMay, Victor..... | '25 Ar..... | Fort Worth |
| Lester, Harry Vanderburgh..... | '25 ChE..... | Dallas |
| LeSturgeon, Edward Garrison, Jr..... | '23 ChE..... | San Antonio |

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| Leuschner, Robert Lee | '25 Ag. | Waco |
| Leuty, Ben David | '24 CE | Krum |
| Leverett, Leyburn A. | '22 ChE | Overton |
| Lewis, George McKoy | '24 AA | Fort Worth |
| Lewis, Henry LaFayette, Jr. | '25 Pre-Law | Navasota |
| Lewis, Marlin Douglas | C 1 | Thorndale |
| Liles, Homer McFarlin | '23 AA | Kaufman |
| Lindeman, Rudolph August | '24 Ar. | San Angelo |
| Lindsey, Glen Aven | '23 Ag. | Davilla |
| Linke, Robert, Jr. | C 2 | Beeville |
| Lipscomb, Patrick Cleburne, Jr. | '25 ME | Trinity |
| Lipsitz, Bertram | '25 AA | Waco |
| Littlejohn, Lacy Welborn | '23 Ag. | Garrett |
| Livingston, Elmo Clarence | '23 ChE | Coleman |
| Lobbess, Mike | '25 TE | Rogers, Ark. |
| Lokras, Vinahak Narayan | '24 ChE | Saugor, C. P., India |
| Long, Benjamin Mosley | '24 EE | Marshall |
| Long, Joseph Thurman | '23 AA | Houston |
| Long, Pierre Douglas | '24 Ag. Eng. | San Benito |
| Long, William Buford | '25 CE | Fort Worth |
| Longino, Marvin George | '25 Ag. | Ingleside |
| Longley, James Farr | '24 EE | Westover |
| Lord, George Joseph | '23 Ag. | Cheapside |
| Lord, Guy Walker | '24 ChE | Hebron |
| Lott, Otto Christian | '22 ChE | Galveston |
| Love, Ben S. | '23 CE | Franklin |
| Love, Walter Meigs | '22 Ag. | Milford |
| Lowe, Allen Pryor | N 1 | San Antonio |
| Lucas, William Priestley | H 1 | Polytechnic |
| Luckett, Chester Alfred | '22 TE | Waco |
| Lucky, Dorrell Emmett | N 2 | Rockdale |
| Ludolf, Americo de Miranda | Sp. Ag. | Rio de Janeiro, Brazil, S. A. |
| Lunsford, Robert Eugene | '25 EE | Seymour |
| Lynch, William Wright | '22 EE | Thurber |
| Lyons, John Fabius Burton | '25 CE | Fort Worth |
| Lyons, Richard Alexander | Sp. Ar. | Bryan |
| McAllister, Thomas Ulysses | '23 ME | Fort Worth |
| McCarter, Thomas Alexander | '24 AA | Galveston |
| McCarty, T. J. | '22 CE | Cisco |
| McCauley, George Walton | '25 EE | Waco |
| McChesney, Edward Rowel | '25 CE | San Antonio |
| McChesney, William Hull | '25 CE | San Antonio |
| McClelland, William Henry | '23 AA | Gilmer |
| McClellen, Elias Baxter, Jr. | '25 EE | Agua Dulce |
| McConnell, Mack | '24 Ag. | Crockett |
| McCready, Robert DeClarke | '25 Ar. | Houston |
| McCulloch, Henry Eustace | '25 AA | Comanche |
| McCullough, John Pinkney | '25 Ag. | Bryan |
| McCullough, Wilmer Raymond | '25 VM | Bryan |
| McDaniel, George N., Jr. | '25 CE | Georgetown |
| McDonald, Herschel Case | '25 CE | Goose Creek |
| McDonald, Herman Ricks | '23 ME | Buna |
| McDonald, Julius Hassler | '23 Ag. | College Station |
| McDonald, Roland | '25 CE | Goose Creek |
| McDougald, Arendo Alexander | '25 CE | Del Rio |
| McElroy, Hazeal Milton | '23 Ag. | Belton |
| McFadden, Edgar Clayton | '24 TE | Pine Bluff, Ark. |
| McFarland, John Calvin | '23 Ar. | Kerrville |
| McGaffey, John W. | C 2 | Hutchins |

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| McGaughey, John Henderson | '25 | ChE. | Whitewright |
| McGee, Frank S. | '24 | AA. | Marshall |
| McGee, Roger Valentine | '23 | Ag. Ed. | Bryan |
| McInnish, James Grafton | '25 | EE. | Plainview |
| McIver, Alexander William | '25 | Ag. | San Antonio |
| McKinney, Allen Aubrey | '25 | Ag. | Comanche |
| McKinney, Robert Davis | | Sp. Ag. | Newcastle |
| McKinney, William H. | | Sp. Ag. Ed. | Whitesboro |
| McKnight, T. William | '23 | CE. | Hallettsville |
| McKoy, Emmett Clifford | '24 | CE. | Rockwall |
| McLaury, William Rowland | '25 | EE. | Snyder |
| McMillan, William Garrett | '22 | Ar. | Calvert |
| McMurry, Stonewall Reynolds | '25 | ChE. | Spearman |
| McNair, Cullen Leslie | '24 | Ag. | Waxahachie |
| McNeel, Albert Maverick | '25 | CE. | San Antonio |
| McNeil, Hugh Robinson | | Sp. Ag. Ed. | Floresville |
| McNelly, Charles Bowman | '23 | CE. | Uvalde |
| McReynolds, Joe Mow | '22 | ME. | Mineola |
| McRimmon, Myrle D. | '22 | CE. | Troup |
| McSwain, Ross Francies | '24 | Ag. | Wellborn |
| MacDaniel, James Hunter | '25 | Ag. | Floresville |
| MacDonnell, Burleson | '25 | Ag. | Austin |
| MacFarland, George Orval, Jr. | | Sp. Ar. | College Station |
| Mackensen, Otto | '25 | Ag. | San Antonio |
| Magnuson, Nels Conrad | '25 | CE. | Lyford |
| Magruder, Alexander Dalton | '24 | EE. | San Antonio |
| Mahan, Alfred | | Sp. Ag. Ed. | Bryan |
| Majors, Jasper Redmond | '25 | CE. | Burkburnett |
| Malcolm, Harold-Otis | '24 | ME. | Oklahoma City, Oklahoma |
| Mallow, Ramon | '23 | Ag. | McKinney |
| Malone, Morris Levelle | '23 | CE. | Coleman |
| Maloney, Joseph Henry | '25 | AA. | Bryan |
| Mangum, John Festus | | Sp. Ag. Ed. | Hempstead |
| Manning, Paul | '25 | Ag. | Leonard |
| March, John Preston | '22 | ME. | El Paso |
| Marcus, Lawrence Bany | '25 | ME. | Wichita Falls |
| Marsh, Gay Jacques | '24 | EE. | Livingston |
| Marshall, Dillard Oneal | | Sp. Ar. | Weatherford |
| Martin, Frank O. | | Sp. AA. | College Station |
| Martin, George Edward | | Sp. Ag. Eng. | College Station |
| Martin, Jack Carmichael | | C 2 | Marshall |
| Martin, John Monroe | | C 1 | Morgan |
| Martin, Joseph Terrell | '22 | Ag. | Justin |
| Martin, James Woodward | '22 | ChE. | San Antonio |
| Martin, Vernon | '25 | Ag. | Bryan |
| Martinez, Jose Gomez | '25 | Ag. | Tamaulipas, Mexico |
| Maruchau, Albert Sereno | '24 | AA. | San Antonio |
| Mason, Clinton Carmack | '23 | Ag. | Paris |
| Massey, Jesse Clifton | '25 | CE. | Weatherford |
| Mast, Claude Albert | '25 | EE. | Dallas |
| Mast, Dick Cason | '24 | Ar. | Nacogdoches |
| Mast, Hollis Tucker | '25 | AA. | Nacogdoches |
| Masuda, Barook Joseph | '22 | Ag. | Cairo, Egypt |
| Matchett, Robert Kyle | '25 | Ag. | Bay City |
| Matern, Carl Getolius | '25 | Ag. | Marble Falls |
| Matthes, Cecil Lawton | '22 | EE. | Laredo |
| Matthews, Robert Harroll | '25 | EE. | Uvalde |
| Matthews, Vernor T. | | Sp. Ag. | Eagle Lake |

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| Maufrais, Henry Louis | '24 TE | Austin |
| Maultsby, Rupert A. | Sp. Ag. | San Saba |
| Maxson, Thomas Emerson | '22 CE | Fort Worth |
| Mayer, Joe B. | C 2 | San Angelo |
| Mayfield, Jack | '25 Ag | Corpus Christi |
| Mayfield, John Chester | '23 AA | Cleveland |
| Mayfield, Lee | '25 CE | Hughes Springs |
| Maynard, William Simpson | '25 ME | Waco |
| Mayo, John Wayland | '22 ME | Dallas |
| Medbery, Clinton Amos | '24 ChE | Riverside, R. I. |
| Meek, John Hunter | '25 EE | Jacksonville, Fla. |
| Megarity, Cebon H. | '23 TE | Waco |
| Meitzen, Joseph Bernard | '25 Ag | San Antonio |
| Meitzen, Robert Jewell | '22 Ag | San Antonio |
| Menke, Theodore Meyer | '25 Ag. Eng | Hempstead |
| Menke, Walter Morris | '22 Ag | Hempstead |
| Merchant, Dorris Henry | '23 ChE | Giddings |
| Meredith, Joseph Huntley | '23 ChE | Waxahachie |
| Merrick, John Gross | '25 Ag | Mercedes |
| Metzger, Randolph Fredrick | '25 ME | Hondo |
| Meyer, Harry Morton | '25 Ag | Flatonia |
| Meyer, L. J. | '24 Ag | Ellinger |
| Meyers, Fred Pierce | Sp. CE | Cameron |
| Miers, Wesley Scott | '23 EE | Hearne |
| Miles, John Henry | '24 EE | Marlin |
| Miles, William John | '22 CE | Mineral Wells |
| Milhollin, Robert Mabry | '23 Ag | Lipan |
| Miller, Herman Newton | '25 ME | Princeton |
| Miller, Isadore | '25 EE | Dallas |
| Miller, Joe | '25 EE | Corsicana |
| Miller, Jesse Clinton | '22 Ag | Elgin |
| Miller, John Keesey | '25 ME | Fort Davis |
| Miller, Looe | '24 Ag | Rotan |
| Miller, Thomas Louie | '24 AA | Coleman |
| Miller, William Earle | '25 Ar | Uvalde |
| Milligan, Robert Joel | '25 CE | McKinney |
| Mims, Morrill Powell | '22 Ag | Cleburne |
| Mims, Staley Wood | '25 ChE | Palestine |
| Mingus, Odus Simpson | '23 ChE | Hico |
| Mitcham, Ralph Alexander | '25 EE | Murchison |
| Mitchell, Alfred Fromme | '24 AA | Lolita |
| Mitchell, Clarence D. | N 1 | Madisonville |
| Mitchell, Wilbur Clifford | '22 ChE | College Station |
| Mogford, Alfred Christian | '23 Ag | Streeter |
| Moguel, Fausto Roberto | '24 Ag | Oaxaca City, Mex. |
| Monagin, J. A. | '24 Ag | Uvalde |
| Monk, James William | '23 Ag. Ed | Center |
| Montgomery, Vol Hardwicke | '25 CE | Eufuala, Okla. |
| Moore, Aubrey Lee | '23 TE | Hubbard |
| Moore, Carl William | '24 CE | Cisco |
| Moore, Emmett Herman | '23 ChE | Fort Worth |
| Moore, Fred William | '25 EE | Clifton |
| Moore, Johnnie Criswell | '22 ChE | Matador |
| Moore, Perry Hollis | N 2 | Kingsville |
| Moore, William Angus | '25 ChE | Dallas |
| Mooring, Ward Taliaferro | '24 AA | Bryan |
| Morey, Arthur Paine | '25 CE | Sedalia, Mo. |
| Morgan, Chester Lee | '25 CE | Leesville, La. |
| Morgan, Edward Doughty | '25 EE | Uvalde |
| Morgan, Ellis Hamilton | '23 CE | Houston |
| Morgan, Emmett Kent | '25 EE | Kirbyville |

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| Morgan, John Edward | '25 AA | LaGrange |
| Morgan, Robert Lee, Jr. | '24 ChE | Leesville, La. |
| Morgan, William Ray | Sp. Ag | Emory |
| Morris, Asbury Bratton | '25 Ag | Cedar Hill |
| Morris, George Merle | '24 Ag | Winnsboro |
| Morris, Harry Forrest | '24 Ag | Forreston |
| Morrow, William D | '23 EE | Reids, La. |
| Morton, Fred | '25 EE | Marfa |
| Mosley, Wilburn Wilson | '24 Ag. Eng | Temple |
| Mosteller, Walter A | '23 EE | Pilot Point |
| Mowlam, James Arthur | '25 AA | Corsicana |
| Mueller, Irvin A | '25 AA | Kenedy |
| Mueller, Albert Burke | '24 EE | Brackettville |
| Muller, Jerome August | '25 AA | Livingston |
| Muller, Marcus Herman | '25 EE | Brackettville |
| Mullican, J. T. Ivor | '24 CE | Cooper |
| Mullins, Benjamin Franklin Kelso | Sp. CE | College Station |
| Mulvey, William Bernard | '22 CE | Houston |
| Muncey, Claude A | '25 Ag. Eng | Corpus Christi |
| Muncey, James Arthur | '24 Ag. Eng | Corpus Christi |
| Munn, Carl G | '25 AA | Sterling City |
| Muntzer, Fred W | '24 EE | San Antonio |
| Murchison, Hugh Roderick | N 1 | Los Angeles, Calif. |
| Murchison, Lewis Nance | '25 EE | Grapeland |
| Murphy, Herbert Adrian | '24 EE | Mexia |
| Murphy, Jack Knox | '25 AA | Fort Worth |
| Murphy, Martin | '25 Ag. Eng | Dallas |
| Murrah, William Erwin | Sp. AA | Plano |
| Myers, Joseph Allen, Jr | Sp. Ag | Bryan |
| Myers, James Vernon | '25 AA | Booth |
| Myers, Philip | '25 Ag | Floresville |
| Myres, William James | '25 ME | Sweetwater |
| Naschke, Bertram Brison | '22 ME | Galveston |
| Neal, George Truett | '23 CE | Fort Worth |
| Neal, John Lindley | '25 EE | Sweetwater |
| Neath, Edgar Roy | '25 EE | Cisco |
| Needham, Reginald Lee | '25 Pre-Med | Lorena |
| Neeley, Marion J | '22 TE | Cotulla |
| Neely, Ray Griffith | '25 AA | Barstow |
| Neitsch, Fred Ernest | '23 EE | Giddings |
| Nelson, Greer B | '24 Ag | Greenville |
| Nelson, Herman Clements | Sp. Ar | Waco |
| Neumeyer, Otto Marco | Sp. Ag | San Carlos-Sud, Santa Fe, Argen- tine, S. A. |
| New, Tsunyoong | Sp. Ag | Peking, China |
| Newell, William Houston | Sp. Ar | Miami, Fla. |
| Newhouse, Earl Alvin | Sp. Ag | Canton, Ohio |
| Newman, Albert Richard | Sp. Ag | Hondo |
| Newman, Samuel Arthur | '25 ME | Texas City |
| Newnam, Lee Petrich | '24 Ar | San Antonio |
| Newport, Fred Carl | '25 Ag | Tomahawk, Ark. |
| Newton, Ross J | '25 Ag | Cross Cut |
| Nicholson, William Stuart | '24 ME | Houston |
| Niebuhr, William Arthur | '22 EE | Brenham |
| Nimitz, Ernest Holland | '23 Ag | San Angelo |
| Nixon, J. Phillip | C 1 | Hondo |
| Nixon, Sam A | '24 CE | Calvert |
| Noble, Stephen Austin, Jr | '25 AA | Greenville |

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| Norris, Fred Boyd | '24 Ag. Ed. | Hubbard |
| Norwood, Shields, Jr. | '25 AA. | Navasota |
| Noster, Clarence Wilfred | '23 ME. | San Antonio |
| Notestine, Edmund | '22 Ag. | Big Springs |
| O'Callaghan, John | '24 ME. | Dallas |
| O'Connor, Joseph Henry | '25 ME. | Houston |
| Ogletree, J. D. | '25 Ag. | New Braunfels |
| Old, William Donald | '25 EE. | San Antonio |
| Oliphant, David Hayden | '24 CE. | Sherman |
| Oliphint, Joseph B. | '22 Ag. Ed. | Bryan |
| Olivarri, Robert Dabney | C 1. | San Antonio |
| de Oliveira, Joas Vieira | Sp. Ag. | Rio de Janeiro, Brazil, S. A. |
| Oliveira, Raphael d' Aulla | Sp. Ag. | Rio de Janeiro, Brazil, S. A. |
| Oliver, John Percy | '25 CE. | Corsicana |
| Olsen, Carl Edwin | '23 ME. | Clifton |
| Olson, Arden Mansfield | '23 EE. | Clifton |
| Opryshek, Karl | '22 ChE. | New Braunfels |
| O'Quinn, Gorman B. | '23 EE. | Beaumont |
| Orr, Albert Stanford | '24 ChE. | Waco |
| Orr, Joseph Anderson | '22 CE. | Blytheville, Ark. |
| Orr, William Bassett | '25 Ag. | Dallas |
| Orth, Robert F. | '23 ME. | San Antonio |
| Ortolani, Walter Albert | '23 CE. | Fort Worth |
| Osborn, John Baylor | '25 AA. | Bastrop |
| Owen, Robert Kyle | '25 EE. | Gainesville |
| Owens, Ralph Charles | '25 Pre-Med. | Dickinson |
| Owens, Roy Morris | '24 Ar. | Bonham |
| Palmer, Fred Niles, Jr. | '25 EE. | Dallas |
| Palmer, Frank S. | '23 VM. | Texas City |
| Palmer, Joe Collier | N 1. | Fort Worth |
| Palmer, Kenneth Sterling | '24 EE. | San Antonio |
| Parish, Thomas Lee | '23 ME. | Beaumont |
| Park, Leo Goodwin | '25 ChE. | Greenville |
| Park, Phocion Sheeks | '24 CE. | Bryan |
| Parke, Albert Lafayette | '23 CE. | Dickinson |
| Parker, Charles D. | Sp. Ag. Ed. | Dilley |
| Parker, John Routh | '24 CE. | Brenham |
| Parker, Wallis Prescott | '23 EE. | Baird |
| Parkhill, Gordon Wight | '24 CE. | Longview |
| Parks, John Earle | N 1. | Fort Worth |
| Parnell, Edward Douglas | '23 Ag. Ed. | Glen Rose |
| Parr, James Knox | '24 Ag. | Hillsboro |
| Parsons, Joseph Martin | '24 ME. | Greenville |
| Paschal, Samuel Sylvester | Sp. Ag. | Mount Calm |
| Paterson, Jack | '24 Ag. | Austin |
| Patterson, Earl Frederick | '25 ME. | Galveston |
| Pattillo, Robert E. L. | '22 Ag. | Greenville |
| Patton, Joseph Alfred | '23 Ag. | Goss, La. |
| Patton, James Russell | '25 AA. | Waco |
| Patton, William Max | '24 EE. | Greenville |
| Patton, William Palmer | '22 Ag. | Goss, La. |
| Paxton, Earl Barbour | Sp. EE. | College Station |
| Payne, William Allsbrook | '22 ChE. | Gainesville |
| Peacock, Leonard Eshar | '23 EE. | Runge |
| Peacock, William | '25 EE. | Houston |
| Peak, Newton Edward, Jr. | '25 Ag. | Greenville |

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| Peavy, Daniel Cornelius | '24 ME | Cuero |
| Pederson, Peter Oliver | '25 EE | Dayton |
| Pelt, Isaac Henry | C 1 | Cedar Hill |
| Pendleton, Eldridge Honaker | '23 Ag | Farmersville |
| Peoples, Hillery Lee, Jr. | '25 AA | Dallas |
| Perdue, Earl M. | '25 AA | Reagan |
| Perkins, William Lloyd | Sp. Ag | Batson |
| Perry, Dick | '25 Ar | Mineola |
| Perry, Ernest Reide | '25 EE | Bay City |
| Peters, Joe Frank | '25 Ag | Giddings |
| Pfaff, Albert G. | '24 EE | Gainesville |
| Pfaff, John Steinley | '24 Ar | Alvin |
| Pfau, Ralph Leslie | '24 CE | Victoria |
| Pflugger, Walter Lee | '24 AA | Eden |
| Phillips, Charles Cecil | '24 CE | Rockdale |
| Phillips, James Kolb | Sp. Ag | Rockdale |
| Phillips, Oscar Kelly, Jr. | '25 EE | Rockdale |
| Phillips, Ross | '23 CE | Corsicana |
| Pierce, Lewis Alva | Sp. Ag | Marshall |
| Pinson, Harry Tom | '22 Ag | Proctor |
| Pinson, Samuel Augustus, Jr. | '24 CE | Forney |
| Plummer, Ralph Joe | H 1 | Polytechnic |
| Plunkett, Lewin, Jr. | '24 Ag | Dallas |
| Pluss, Herman | N 2 | Galveston |
| Poage, Conger | '24 Ag | Waco |
| Poe, Fred Taylor | H 1 | Commerce |
| Poole, Samuel Euclid | Sp. Ag | Hattiesburg, Miss. |
| Porter, Charles Moorings | '25 AA | Terrell |
| Porter, John Buren | '22 ME | Calvert |
| Porter, James Walter | '22 CE | Terrell |
| Poth, Jacob Henry | '25 Ag. Eng. | Poth |
| Potts, Charles Bruce | '24 AA | Batesville |
| Powell, Bert R. | '25 Ag | Bangs |
| Prewit, James David | '25 Ag | Pecos |
| Price, Robert Eben | '22 ME | Kerens |
| Prickett, Paul Smith | '22 ChE | Fort Worth |
| Proehl, Oscar Arthur | '23 Ag | Houston |
| Puckett, Almor Manor, Jr. | '25 AA | San Antonio |
| Pugh, Martin Harold, Jr. | '25 Ag. Eng. | Mercedes |
| Pustejovsky, Raymond George | '23 Ar | Moulton |
| Putnam, Somers | '25 CE | Throckmorton |
| Pye, Benier Freeman, Jr. | '25 Ag | Beaumont |
| Pyland, James Wesley | '25 AA | Marlin |
| Quayle, Richard | '25 Ag | Hillsboro |
| Quinn, John Donahue | '25 AA | Navasota |
| Rachel, Harvey Lee | C 1 | Texarkana |
| Radi, Salim Abdullah | '24 Ag | Bagdad, Mesopotamia |
| Ragsdale, Thomas Henry | '25 EE | Palestine |
| Rainey, Anson, Jr. | '25 Ar | Dallas |
| Ram, Avinashi | '24 TE | Calcutta, India |
| Ramsey, Newell Montague | '25 EE | Port Arthur |
| Rankin, Edward Lochridge | '25 Ar | Waxahachie |
| Ransome, William Marshall | '25 EE | Bastrop |
| Ratcliffe, Thomas Gideon | '24 Ar | San Antonio |
| Rawlins, Roderick Alexis | '25 CE | Lancaster |
| Ray, Forrest G. | Sp. EE | Troup |
| Ray, Jo | Sp. Ag | Crowell |
| Rea, Homer Earle | '22 AA | Rosebud |

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| Reagan, Charles Anderson | '24 CE | Farmersville |
| Real, Casper | '22 Ag | Kerrville |
| Rech, Edwin George | '25 AA | Smithville |
| Reddick, DeWitt Carter | '25 CE | Fort Worth |
| Reddick, Walter Newton | '25 TE | Fort Worth |
| Redditt, Thomas Guyton | '22 CE | Center |
| Reed, Nichols Homer | C 2 | Sterling City |
| Reed, Russell Harold | '25 AA | Coolidge |
| Reed, Thomas Franklin | Sp. Ag | Clayton |
| Reedy, Morris | '24 CE | Fort Worth |
| Reedy, Wilson Newton | '25 Ag | Greenville |
| Reese, Joseph Travis | Sp. TE | Freeport |
| Reid, Dalton Lee | '25 CE | Greenville |
| Reid, Rogers Fullerton | '23 EE | Orange |
| Reitch, Tom Clarence | '25 Ag | Mineola |
| Remschel, Marvin Henry | '25 AA | Gonzales |
| Remy, T. P. | Sp. Ag | College Station |
| Renfro, Robert Delmore | '25 CE | Hillsboro |
| Reutzel, Harry Perry | '25 ChE | San Antonio |
| Reynaud, Oscar Field | '23 CE | Houston |
| Reynolds, James Milton | '22 AA | Mount Calm |
| Reynolds, Ralph Rodney | '25 Ar | Bryan |
| Rice, Millard Weaver | '25 ME | Plano |
| Richards, William Boon | '25 CE | Kilgore |
| Richardson, Alvin Ike | '25 EE | McKinney |
| Richardson, David Porter, Jr. | '23 EE | Henderson |
| Richter, Charles Montgomery | C 1 | Waco |
| Rike, Robert Aldridge | '25 AA | Farmersville |
| Ripple, Harold John | '25 AA | Sealy |
| Risley, Clifford George | N 1 | College Station |
| Robbins, Jesse Jewell | '25 VM | McKinney |
| Roberts, Herman Lorenza | '24 ME | Corsicana |
| Roberts, Hubert Oscar | '24 Ag. Eng. | Terrell |
| Roberts, Paul Henry | N 2 | Itasca |
| Roberts, W. Noble | '25 AA | Pampa |
| Robertson, Carl Edward | '25 EE | Vernon |
| Robinson, Brittain Bragunier | '23 Ag | Galveston |
| Robinson, Conrad A. | '24 Ag | Bartlett |
| Rogers, Archie Clifton | '23 EE | Cameron |
| Rogers, Clinton Charles | '23 Ag | Hondo |
| Rogers, Elbert William | '22 EE | Sulphur Springs |
| Rogers, Herman Leach | '25 Ag | Mart |
| Rogers, Joe Louis | Sp. Ag | Blum |
| Rogers, Robert Lee, Jr. | '25 Ag | Fort Worth |
| Roll, Glenn Wood | '25 ChE | Dallas |
| Romberg, Conrad Julius | '24 ME | Holland |
| Rome, Maurice Anthony | N 1 | Mission |
| Roper, William Nunn | '22 CE | Rosebud |
| Rosborough, Craig | '22 Ag | Marshall |
| Rosborough, James Fears | Sp. Ag | Marshall |
| Rosborough, Richard Allen | '24 IE | Marshall |
| Rosenberg, Mortimer Lewis | '22 ChE | Taylor |
| Rosenquest, Frits Oscar | '25 Ag | Cisco |
| Ross, Bert Falconer | '25 Ag | Pecos |
| Ross, Erwin Glen | C 2 | Goodlett |
| Ross, Henry | '23 Ag | Austin |
| Rounds, Will Arthur | '24 CE | Fort Worth |
| Rowland, William Goeble | '23 ME | Humble |
| Royal, Rheutillious Fletcher | '25 Ag | Pleasanton |
| Rudd, Joseph Clinton | '25 ChE | Beaumont |

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| Ruhmann, Edwin Paul | '25 EE | Kenedy |
| Rummel, Adolph Joseph | '24 EE | San Antonio |
| Rush, Henry David | '25 Ag | Marlin |
| Rutherford, Carl Raymond | '25 EE | Moody |
| Rutherford, Roger Rives | '25 AA | Dallas |
| Rutledge, Mansel Cyril | C 1 | Houston |
| Rutledge, Oran Melmath | C 2 | Houston |
| Sabacky, Joe | Sp. Ar | Bryan |
| Salley, Kenneth Clifton | '25 ME | El Campo |
| Sandel, John Mickle | C 2 | College Station |
| Sanderlin, Ralph Cecil | '25 ME | Electra |
| Sanders, Allison | '25 Ar | Waco |
| Sanders, Sam Houston, Jr. | Sp. Ag | Franklin |
| Sandford, Levings Foster | '25 ME | Monticello, Ark. |
| Sanguinet, Frank Kemble | '25 Ar | Fort Worth |
| Santerre, McLeo | '24 Ag | Dallas |
| Saunders, Harry Merritt | '22 EE | Greenville |
| Saunders, John Laroy | '22 Ag. Eng. | Smithville |
| Saunders, John Marion | C 1 | Blanco |
| Sawyer, C. L. | Sp. Ag | Madisonville |
| Sawyer, Fred Linton | '25 EE | Sherman |
| Sayers, Philip Edgar | '25 TE | Houston |
| Sayers, Ralph Segar | '25 ChE | Houston |
| Sayles, Charles Murrell | '25 CE | Abilene |
| Scales, Robert Henry | '22 CE | San Antonio |
| Schaedel, Frank Walter | '22 EE | Bay City |
| Schaefer, Edward Hassler | '24 ChE | San Antonio |
| Schaefer, Elmo Malcome | '25 Ag | Schulenburg |
| Schaefer, Quentin Bryan | '22 EE | Schulenburg |
| Schaer, Robert | Sp. Ag | Chapel Hill |
| B. S., A & M. College of Texas, 1919. | | |
| Schiller, Frank Paul | '25 EE | Granger |
| Schiwetz, David Proctor | '25 ME | Cuero |
| Schiwetz, Edward M. | '22 Ar | Cuero |
| Schlather, Erich George | '22 EE | Cibolo |
| Schmid, Albert D. | '25 CE | Brenham |
| Schmidt, Fred Raymond | N 1 | Fort Worth |
| Schmidt, George Frank | '24 Ag | Kingsbury |
| Schmidt, Herbert Edward | '22 EE | Galveston |
| Schroeder, Herbert | C 2 | Industry |
| Schuenemann, Diedrich Hugo | '24 EE | Kenedy |
| Schuler, Gregory Edward | N 1 | Galveston |
| Schultz, John Frederick | '23 Ag | Columbus |
| Schulze, Ferdinand | '23 ChE | Kerrville |
| Schuttee, Elbert Almer | C 2 | Bryan |
| Schwab, Charles T., Jr. | '25 ME | Cuero |
| Seals, Willie Delma | '24 Ag | Wichita Falls |
| Seelke, Adolph G. | '23 CE | Giddings |
| Sellers, Eugene Parramore | '25 CE | Abilene |
| Severn, John Mack | '22 Ag | Elgin |
| Sewell, Hubert | '25 EE | Vernon |
| Seyle, Samuel Roscoe | '22 CE | Houston |
| Shanks, George W. | '25 Pre-Med. | Pittsburg |
| Sharp, Charles Brightman | '24 EE | Crockett |
| Shaver, Edward Chappell | '25 CE | Chapel Hill |
| Shaw, Harold Cook | '23 Ag | Victoria |
| Shaw, Lawrence Edward | '24 ChE | Victoria |
| Sheffey, Billie Marshall | N 1 | Cisco |
| Sheffield, John Milo, Jr. | '24 AA | Mart |

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|----------------------------------|-----------------|-----------------|
| Sheffield, John Stewart..... | '24 ME..... | Paris |
| Shelton, Dixon Bywaters..... | '25 Ag..... | Paris |
| Sheppard, William Elbert..... | '25 CE..... | Winnsboro |
| Sherman, Robert Miller..... | '24 CE..... | Waco |
| Shield, Elgean L..... | '25 ChE..... | Santa Anna |
| Shields, Fred Maynor..... | '23 Ag..... | Trinity |
| Shifflett, Lacy Bryant..... | '23 Ag..... | Marble Falls |
| Shook, Earley Melborne..... | '25 EE..... | Fort Worth |
| Short, Charles Brandon..... | '24 Ag..... | Amarillo |
| Short, Leslie Eaves..... | Sp. Ag..... | Bandera |
| Short, Walter Thomas..... | '24 Ar..... | Silsbee |
| Silvus, Walter Emory..... | '22 EE..... | Dallas |
| Simmons, Forrest Charles..... | '23 EE..... | Shreveport, La. |
| Simmons, William Edwin..... | '22 CE..... | Dayton |
| Simon, Harold Charles..... | Sp. IE..... | Converse |
| Simon, Steve, Jr..... | '23 EE..... | Laredo |
| Simpson, Frank Morton..... | '23 ME..... | La Porte |
| Simpson, Howard B..... | '25 CE..... | Gallatin |
| Simpson, Roger Lawton..... | '24 Ag..... | Dallas |
| Sims, C. T..... | Sp. Ag. Ed..... | East Bernard |
| Sims, Noel R..... | Sp. Ag..... | Mobeetie |
| Singleton, Foster McMullen..... | '25 EE..... | Lufkin |
| Singleton, Neill..... | Sp. EE..... | Lufkin |
| Skains, William Thomas..... | '23 Ag..... | Franklin |
| Skelton, Jim Allen..... | H 1..... | Brownsville |
| Skrabaneck, Raymond Emmett..... | '25 CE..... | West |
| Skrabaneck, Tommy Joseph..... | '25 ME..... | Ennis |
| Smith, Charles C..... | Sp. Ag..... | Trent |
| Smith, Commodore Olian..... | '25 ChE..... | Tampico, Mexico |
| Smith, Eck..... | Sp. Ag. Ed..... | Bryan |
| Smith, Euclid M..... | '25 EE..... | Bonham |
| Smith, Elbert Vance..... | '25 AA..... | Dallas |
| Smith, Frank..... | C 1..... | Crockett |
| Smith, Frederick Alphonse..... | M 1..... | Winona |
| Smith, Henry Norman..... | C 2..... | Clarksville |
| Smith, Harry Sherman..... | '24 EE..... | Handley |
| Smith, Ira Eugene..... | Sp. Ag..... | Dewville |
| Smith, Jack Ramsey..... | '24 ME..... | Malakoff |
| Smith, Lee Andrew..... | Sp. EE..... | College Station |
| Smith, Marlin Rocelius, Jr..... | '24 CE..... | Coleman |
| Smith, M. V. Farr, Jr..... | '22 ME..... | Belton |
| Smith, Percy Hilton, Jr..... | '24 ME..... | Dallas |
| Smith, Ralph Ezra..... | '24 EE..... | College Station |
| Smith, Wilburn Kelly..... | '24 Ag..... | Gatesville |
| Smith, Willie Ray..... | '25 ME..... | Sanger |
| Smith, Walter Sidney..... | '25 CE..... | Albany |
| Smith, Zay..... | '24 Ar..... | San Antonio |
| Smotherman, Macy..... | '25 VM..... | McKinney |
| Smyth, Leon L..... | '23 Ar..... | Mart |
| Snead, Edwin Brazelton..... | '25 ChE..... | Waco |
| Snell, Casbeer..... | '25 Ag..... | Lampasas |
| Soland, Frederick Francis..... | N 2..... | Houston |
| Sorrells, Charles Clifton..... | C 1..... | Katemcy |
| Spangle, Cartwright Carroll..... | C 1..... | Goliad |
| Spears, James Russell..... | '25 AA..... | Jacksboro |
| Spence, Stanley Lyford..... | '23 CE..... | San Angelo |
| Spencer, Charles Bedford..... | '25 Ag..... | Marlin |
| Spencer, H. Leo..... | C 1..... | Liberty Hill |
| Sponberg, David Edmund..... | '25 Ag..... | Elgin |
| Sprague, Carl Tyler..... | '22 Ag..... | Houston |

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|---------------------------------------|------------------|-------------------|
| Spreen, Herbert Frederick..... | '22 EE..... | Welcome |
| Spurger, Stephen H..... | Sp. Ag..... | Marietta |
| Staats, Corliss Gilbert..... | '25 CE..... | Fort Worth |
| Stallings, Archie..... | '24 VM..... | Bryan |
| Stallings, Leonard..... | '23 AA..... | Brownwood |
| Stamps, William Thomas..... | '23 EE..... | Terrell |
| Stancliff, Thomas Herman..... | '25 ME..... | Houston |
| Standlee, Dan Graves..... | '24 ME..... | Handley |
| Stanford, Maurice Denton..... | '25 Ag..... | Lorena |
| Starnes, Jasse Lee..... | Sp. Ag..... | San Antonio |
| B. S., A. & M. College of Texas, 1918 | | |
| Stasney, Leon William..... | '24 AA..... | Bryan |
| Steele, Dewitt Durham..... | '22 Ag..... | Corpus Christi |
| Steele, Junius..... | '22 EE..... | Marshall |
| Steele, Rezin Brinsmade..... | '22 EE..... | Houston |
| Steffens, Lynn David..... | '25 Ag..... | Smithville |
| Steibing, Clarence Christian..... | '22 VM..... | College Station |
| Stelfox, Staats Reichie..... | '25 Ag..... | Austin |
| Stephens, Gouverneur Robert..... | '22 CE..... | Mission |
| Stephens, Ira Alfred..... | '24 TE..... | San Antonio |
| Stephens, Theodore R..... | '24 Ag..... | Mission |
| Stephenson, Leslie Dean..... | '25 EE..... | Dallas |
| Sterling, Nathe Brooks..... | N 2..... | Rockdale |
| Stevens, Julian Earl..... | N 2..... | Premont |
| Stevens, James Kenneth..... | '24 ChE..... | Plainview |
| Stevenson, Homer Eads..... | '25 EE..... | San Antonio |
| Stewart, Charles Dickens..... | '25 EE..... | Hutto |
| Stewart, Hugh Miller..... | '25 EE..... | Corsicana |
| Stewart, Milam Parks..... | '22 Ag..... | Kirbyville |
| Stieneker, Edgar Fred..... | '25 EE..... | Dallas |
| Stiles, Robert Winfield..... | '22 ChE..... | San Diego, Calif. |
| Stiles, Wendel Arthur..... | '24 Pre-Med..... | Waco |
| Stillwell, Claude D..... | C 1..... | Detroit |
| Stinson, Wright X..... | N 2..... | Winfield |
| Stivers, Ralph William..... | '25 EE..... | Burkburnett |
| Stobaugh, Albert Mayes..... | Sp. EE..... | Gainesville |
| Stocks, Aubrey Banks..... | C 2..... | Tankersly |
| Stone, William Venable..... | '25 AA..... | Holland |
| Stoneham, Jack Johnston..... | '25 ME..... | Paris |
| Stovall, John Oatis..... | '25 Ag..... | Mt. Calm |
| Strange, John Hansel..... | '22 CE..... | Mart |
| Strange, John Rufus..... | '22 Ag..... | Ardmore, Okla. |
| Strange, Thomas Ray..... | '24 ChE..... | Ardmore, Okla. |
| Strange, William Thomas, Jr..... | '22 Ar..... | Ardmore, Okla. |
| Straughan, George Ramer..... | '25 Ag. Ed..... | Lovelady |
| Stribling, Ralph Copeland..... | '24 CE..... | Rockdale |
| Striegler, Richard Hobson..... | '23 CE..... | Fredericksburg |
| Striekert, Roy Robert..... | '24 Ar..... | Brenham |
| Stroble, Lois Orland..... | '25 Ag..... | Taylor |
| Struve, Johnnie B., Jr..... | '24 EE..... | Caldwell |
| Stubbeman, Alfred William..... | '24 ME..... | Cuero |
| Stubbs, Frank Marion, Jr..... | '25 Ag..... | Robstown |
| Studeman, Leon Edward..... | '25 EE..... | Moulton |
| Sturgis, Madison B..... | Sp. Ag..... | Hampton, Ark. |
| Styner, Pete..... | '25 CE..... | Palestine |
| Sullivan, Willard Burton..... | '25 ME..... | Big Springs |
| Sullivan, William Jennings Bryan..... | '22 Ar..... | Fort Worth |
| Summers, Burke Tucker..... | '25 Pre-Med..... | Nacogdoches |
| Summers, Dave Franklin..... | Sp. Ag..... | Oplin |
| Swanner, Charlie Brunett..... | '25 Ar..... | Denison |

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|-------------------------------|-------------|-----------------|
| Sweatman, Lennie E. | '25 Ag. | Ennis |
| Syler, Cicero Roper | C 2 | Winters |
| Sylvester, John Willie | Sp. Ag. | Bryan |
| Taber, Theron Simon, Jr. | '24 EE. | Fort Worth |
| Tadlock, Carter M. | Sp. Ag. | Timpson |
| Tallmon, Rollie Jefferson | Sp. Ag. | Polytechnic |
| Tankersley, Edward Jackson | '24 CE. | Marfa |
| Tate, James Norman | '25 AA. | Marble Falls |
| Tatum, Herbert Madison | '24 Ar. | Dallas |
| Taylor, Alonzo Clason | '24 CE. | Fort Worth |
| Taylor, Edward Wyllys, Jr. | '23 ChE. | Houston |
| Taylor, Francis Grant | '23 TE. | Waco |
| Taylor, Glenn Evereth | '25 ChE. | Coleman |
| Taylor, Jesse L. | Sp. CE. | Bolivar, Mo. |
| Tenney, Rob Paul Warfield | '24 CE. | Rusk |
| Terry, Chester W. | '24 CE. | Dallas |
| Terry, James Christopher | '24 TE. | St. Louis, Mo. |
| Terry, Jay Gordon | '25 ME. | Denison |
| Terry, Joe Hensley | C 1. | Hillsboro |
| Thacker, Richard Bradley, Jr. | '25 EE. | Houston |
| Thigpen, James Young | Sp. Ag. | Daingerfield |
| Thomas, Charles Wright | '22 ChE. | La Grange |
| Thomas, Ira Lee, Jr. | '25 CE. | Alexandria, La. |
| Thomas, Roderic Bruce | '22 CE. | Dallas |
| Thomas, Ralph Rogers | Sp. Ag. Ed. | Marfa |
| Thomason, Gordon Randolph | '25 ChE. | Waco |
| Thompson, Ben Claude | '23 Ag. | Brady |
| Thompson, Harry Witford | '22 TE. | Hubbard |
| Thompson, Iven Weller | '24 Ag. | San Angelo |
| Thompson, Othman Clarence | '22 ChE. | Polytechnic |
| Thompson, Webster Jones | '25 Ag. | Hebbronville |
| Thorn, Carl Marion | '25 EE. | Fort Worth |
| Thornton, Odis Newton | Sp. Ag. | De Kalb |
| Threadgill, Arthur Read | '25 Ar. | Marlin |
| Thurmond, Milam Frank | '22 Ag. Ed. | Quanah |
| Tickle, Harper Franklin | '25 Ag. | Dallas |
| Tiemann, Edwin Fritz | '22 ME. | La Grange |
| Tindall, Lovel Bishop | Sp. Ag. Ed. | Fostoria |
| Tiner, Wayne Darwin | '23 CE. | Uvalde |
| Tippitt, Robert Ray | '22 Ag. | Alpine |
| Tobin, Byron Eugene | '23 ME. | Pilot Point |
| Todd, Belden Wilmer | '25 EE. | Houston |
| Tolle, John Francis | '25 EE. | San Antonio |
| Tolson, William Arthur | '23 EE. | Sherwood |
| Tomlinson, Albert Lee | '23 CE. | Marlin |
| Tomlinson, John Bine | '25 ME. | Denton |
| Tompkins, James Franklin | '22 CE. | Corpus Christi |
| Tompkins, William Mounts | '25 AA. | Corpus Christi |
| Toner, Sylvan Morris | '24 Ag. | Austin |
| Torbett, W. C., Jr. | '23 ME. | Waco |
| Torian, Albert Halbert | '25 AA. | Waco |
| Tosch, Fred Lee | '25 AA. | Dallas |
| Tracy, Percy Lee | '25 AA. | Houston |
| Trant, Joshua Samuel | '23 EE. | Iola |
| Traweek, Robert L. | Sp. Ag. | Pointblank |
| Treadgold, Robert Henry | '25 ME. | Houston |
| Treadwell, Thurman Louthan | '25 Ag. | San Angelo |
| Trenckmann, Richard Ernst | '24 CE. | Bellville |
| Tribble, John Hilton | Sp. Ag. | Frisco |

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|------------------------------|----------|--------------------|
| Trigg, Carl Jack | '25 EE | Galveston |
| Trim, Walter | '25 EE | Bigwells |
| Troeger, John Henry | '25 EE | Denison |
| Tucker, Bert Raab | '25 ME | Fort Worth |
| Tucker, Hyden Lidell | '22 ChE | Blum |
| Tucker, Joseph Claude | '23 ME | Brenham |
| Tumlinson, John Clinton | '25 Ar | Jourdanton |
| Turman, Walter Wilburn | '25 CE | Howland |
| Turner, Dixon Leland | '23 Ag | Dimmitt |
| Turner, Harvey Randolph | '25 CE | Madisonville |
| Turner, Norman Henry | Sp. Ag | Denton |
| Turner, Nathaniel Parker, Jr | '24 CE | Marshall |
| Turner, Virgil Lamont | Sp. Ag | Lewisville |
| Turney, Charles Marion | '25 Ar | Smithville |
| Ulbrich, Chauncey Pierpont | '24 ME | Hondo |
| Ulrich, Phillip Fred | N 1 | Wichita Falls |
| Underwood, Carl Milton | '25 ME | Denton |
| Valdez, Rafael | Sp. ChE | Guayaquil, Ecuador |
| Valentine, Charles Howard | '25 Ag | Palestine |
| Van Horn, Richard Martel | '25 Ar | Fort Worth |
| Van Tuyl, Andrew J | '22 CE | Fort Worth |
| Vaughan, Robert Givens | '22 Ag | Hillsboro |
| Vaughan, Virgil V | '24 CE | Waco |
| Voges, Walter Richard | C 1 | Poth |
| Vogt, Emil | '25 CE | Schulenburg |
| Vondy, Andrew | '25 Ar | Corsicana |
| Wade, Wallis John | '25 Ar | San Antonio |
| Waggonman, Charlie Andrew | C 2 | Fort Worth |
| Wakeman, Percival Adams | Sp. ME | Medford, Mass. |
| Walker, Harold Hardy | '23 CE | Tyler |
| Walker, James Bryant | '25 AA | New Baden |
| Walker, William Watt | '23 EE | Crystal City |
| Wall, Charles Layton, Jr | '24 EE | San Antonio |
| Wallace, Paul Gipson | '25 EE | Omaha |
| Waller, John Andrew | '25 CE | Crockett |
| Wallis, David Edward | '25 Ar | San Antonio |
| Wanderley, Joaquin Mawrivio | Sp. Ag | Pernambuco, Brazil |
| Ward, Alvis Andrew | '25 EE | Winnsboro |
| Ward, James McCall | '25 AA | Waco |
| Ward, Robert Page | '24 EE | Georgetown |
| Ward, Theodore Wallie | '24 Ar | Dallas |
| Ware, Charles Somerville | '25 ChE | Temple |
| Ware, Roy | Sp. Ar | College Station |
| Warren, Homer Clay | '24 Ag | Waco |
| Warren, John David | '25 Ag | Hewitt |
| Washburn, Paul Jones | '25 CE | Heyworth, Ill. |
| Waters, Royce Henry | '25 AA | Lubbock |
| Watson, Andrew | '24 AA | Eagle Pass |
| Watson, John William | '25 AA | Mart |
| Watson, Lloyd Raymond | Sp. Ag | College Station |
| Waugh, Charles Alden | '25 ME | San Antonio |
| Weeks, Wesley Dale | '25 EE | Dalhart |
| Weaver, Leo Lorraine | '23 ME | Navasota |
| Webb, Clyde A., Jr | '25 ME | San Antonio |
| Webb, Charles Marcus | '24 CE | San Antonio |
| Webb, Ernest | '23 ME | San Antonio |
| Webb, Joe | '25 E. C | San Antonio |

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| Webber, Absalom Theodore | '22 ME | Freeport |
| Webber, John Daniel | '25 Ag | Houston |
| Weber, Carl | '23 Ar | Comfort |
| Webster, Daniel Horner | '22 EE | San Antonio |
| Weddell, W. C. | '25 Ag | San Angelo |
| Weed, William Franklin | '25 ME | Beaumont |
| Wehrman, Clarence Reginald | '25 ME | Brenham |
| Weinberg, Herbert Lee | '23 ME | Houston |
| Weinfeld, Milton | '25 Pre-Med | San Antonio |
| Weir, William Calvin | '23 Ag | Georgetown |
| Weisbrich, Rudolph August | '22 EE | San Antonio |
| Weise, Adolph V. | '23 ME | San Antonio |
| Welch, Lewis Marion | '24 EE | Voth |
| Wendle, Kenneth Stuart | Sp. EE | Boerne |
| Wendler, Walter Hugh | '25 EE | Boerne |
| Wendt, Frank Thomas | '22 Ag | Sherman |
| Werner, Richard Joseph | '25 CE | San Antonio |
| West, Albert Washington, Jr. | '24 AA | Uvalde |
| Westbrook, Charles Alexander | C 1. | Waco |
| Westbrook, Moses Strong | '25 Ag | Lorena |
| Westmoreland, Cecil Sylvester | '25 EE | Waco |
| Weyland, Otto Paul | '23 ME | Taft |
| Whatley, George Aldridge | '25 EE | Calvert |
| Wheeldon, Harry | '22 ChE | Big Springs |
| Wheeler, Dudley Bailey | '24 ME | Fort Worth |
| Wheeler, Joe Weldon | '25 AA | Gilmer |
| Whelan, Daniel Edmond | '25 CE | Jefferson |
| White, Robert Frazier | '24 CE | Houston |
| White, Robert Graves | '25 CE | Tyler |
| White, Russell Grant | '25 CE | San Antonio |
| White, Todd Rector | N 1. | Temple |
| Whitehouse, Ben | '24 Ag | Cleburne |
| Whitsett, Silver | '24 Ag | Crystal City |
| Whitson, Hulen V. | '25 ME | Weatherford |
| Wible, Doud Jordan | '25 ChE | Oglesby |
| Wilcox, George B. | '23 Ag. Ed. | College Station |
| Wilder, John Wesley | '24 Ar | North Pleasanton |
| Wilkerson, William Wadsworth | '24 CE | Hearne |
| Wilkins, Claude Alexander | Sp. Ag. Ed. | Leesville |
| Willard, Herbert Bernley | '22 ChE | Port Arthur |
| Willett, Eldon R. | '25 Ar | Thurber |
| Williams, Carlton Albert | '25 Ag | Avoca |
| Williams, Cincinnattis Lamar | Sp. Ag. | Talpa |
| Williams, Charles Wesley | '24 CE | Dallas |
| Williams, George Davis | '25 ME | Fort Worth |
| Williams, Louis Harold | '23 EE | Henderson |
| Williams, Loyd Thomas | '23 EE | Elizabeth, La. |
| Williams, Robert B. | '23 CE | Albany |
| Williams, Robert Nunn | '25 ChE | Galveston |
| Williams, Urbane Marvin | Sp. Ag. | Paris |
| Williams, William Howell, Jr. | '22 ChE | Houston |
| Willig, Gerhard Emil | '25 IE | Temple |
| Willis, Claude Channing | '22 Ag | Whitewright |
| Willis, William Hubert | '24 Ag. Eng. | Bryan |
| Wilson, Cecil Calvert | '24 AA | Itasca |
| Wilson, Charles Ogelsby | '25 Pre-Med | Navasota |
| Wilson, Estill Arnold | '24 Ag. Eng. | Leonard |
| Wilson, Horace Earl | '23 hE | Wharton |
| Wilson, Richard O. | '24 CE | Coleman |
| Wilson, Ray Wallace | '25 Ag | McKinney |

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| Wilson, Robert Winston | '25 CE | McKinney |
| Wilson, Stewart Nolan | N 1 | Bryan |
| Wilson, Thomas Fred | '24 TE | Honey Grove |
| Wilson, William Baker | '25 CE | Kemp |
| Winchester, Clarence Leroy | '25 VM | Texarkana, Ark. |
| Winckler, William Henry | '25 ME | San Antonio |
| Winn, William Edward | '22 ChE | Dallas |
| Wise, Robert Chisholm | '25 ME | Alice |
| Woiton, John Benjamin | '25 CE | Bryan |
| Wolfe, George Clifton | '25 CE | Fort Worth |
| Womack, Homer Elbert | '23 Ag | Corpus Christi |
| Wood, Charles Robert | '25 CE | Honey Grove |
| Wood, Gaston Milling | '25 AA | Athens |
| Wood, Langston Herschel | '23 Ar | Henderson |
| Wood, Stephen Herndon | Sp. Ag | Burleson |
| Woodall, Isidore Ormond | '25 EE | Hillsboro |
| Woods, William | '25 AA | San Benito |
| Woolsey, Vernon Gems | '22 Ag | Bay City |
| Works, Maurice Milton | '22 CE | Amarillo |
| Worsham, Joseph Luster | Sp. Ag | Bryan |
| Wright, Asa Upton | '25 CE | Jefferson |
| Wright, Clarence John, Jr | '23 CE | Houston |
| Wright, Samuel Robert | '22 CE | Weatherford |
| Wupperman, Richard Otto | '22 Ag | Seguin |
| Wurzbach, Alvin Julius | C 2 | San Antonio |
| Wurzbach, William Augustus | '25 Ag | San Antonio |
| Wyche, Robert Hiram | '25 Ag | Riesel |
| Wyche, William Mitchell | '24 EE | Haskell |
| Wyly, James John, Jr | '22 EE | Fort Worth |
| Yarbrough, Riley Egbert | '24 CE | Alexander |
| Yater, John Allen | '22 ME | Cleburne |
| Young, Edley Uriel | '25 Ar | Denton |
| Young, William Keeran | '23 AA | Laredo |
| Youngs, Walter Charles, Jr | '25 CE | Livingston |
| Zachry, Henry Bartell | '22 CE | Uvalde |
| Zappe, Oscar Otto | '25 EE | Ballinger |
| Zesch, William Harold | '25 Ag | Mason |
| Zimmerman, Percy Edward | '25 Ar | Coleman |

SPECIAL COURSE IN COTTON CLASSING FOR FEDERAL STUDENTS

| | |
|-----------------------------|-------------------|
| Banta, Milton William | Wetumka, Okla. |
| Bonham, Vaughn Eidon | Sallisaw, Okla. |
| Brantley, Arnold Livingston | Windom |
| Caffey, John T | Anson |
| Campbell, Roscoe M | Wister, Okla. |
| Carlile, Arthur | Sallisaw, Okla. |
| Chappell, Charlie Britten | Chatham, La. |
| Childress, Kutledge B | Boyd |
| Childress, Robert C | Ore City |
| Dardian, Ulrich | Ville Platte, La. |
| Gargus, Dee Armon | Trent |
| Hicks, Everett Vivian | Savoy |
| Humason, Guerdon Wesley | Gresham, Oregon |
| Hunnicutt, Robin Winfield | Marlin |
| James, Paul Erwin | Mangum, Okla. |
| Jones, Frank Stanton | Houston |
| Lang, Roy Tilford | Rusk |
| McCall, Frank Robert | Partia, Ark. |

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|----------------------------|------------------|
| McCarter, John Ernest | Henderson |
| McConnell, Willie Byron | Bryan |
| McCormick, William Wallace | Cuero |
| Myers, Lewis | Bridgeport |
| Newell, George Robert | Nixburg, Ala. |
| Odom, Alva Mitchell | Stonewall, Okla. |
| Orndorff, Melvin Ernest | Hope, Ark. |
| Patterson, Henry S. | Alcreek, Colo. |
| Sharp, Reuben Wilkerson | Montgomery, Ala. |
| Southall, Eunice Harmon | Burleson |
| Stricker, Clyde William | Bryan |
| Taylor, Archilous C. | Bryan |
| Watson, Roy J. | Newcastle |
| Welch, Jim G. | Bryan |
| Wilkins, Edmond Whitfield | Paris |
| Wilson, William P. | Gilmer |
| Wynne, Robert Bruce | Tatum |

EIGHT WEEKS' COURSE IN AUTO MECHANICS

| | |
|--------------------------|----------------|
| Andrews, Richard Warren | San Antonio |
| Bean, Jesse | Lueders |
| Bench, Neal | Red Springs |
| Bennett, Arthur Dorson | Brownsville |
| Bush, Nolan Austin | Omaha |
| Byrne, Rex Edward | Streetman |
| Courville, Edward | Reagan |
| Curb, George Thomas | Killeen |
| Davenport, R. | Center Point |
| Denman, Joseph Madison | Rhome |
| Ehlo, Carl Fred | Slaton |
| Ernst, Bruno | McDade |
| Feuge, Edgar Charles | Fredericksburg |
| Fletcher, Joe Bailey | Mullin |
| Gindorf, Theo E. | Brenham |
| Granz, Willie | Shiner |
| Haynes, William Franklin | Brownwood |
| Heye, C. A. | Gonzales |
| Hines, Steve Manning | Midway |
| Howard, Artie Alonzo | San Antonio |
| Huebner, Herbert | Cameron |
| Johnson, Spencer Lowell | Palacios |
| Johnson, Victor Edward | Creedmoor |
| King, German Deupree | Buda |
| Lehrmann, Henry | Burton |
| Leppin, Oscar Chris | Weimar |
| Long, Cecil A. | Roscoe |
| McBride, Herbert Emerson | Swan |
| McDonald, Glenn M. | Athens |
| Marek, Edward J. | Oenaville |
| Mathews, Harry, Jr. | Texarkana |
| Moore, Irby Henry | Reagan |
| Mueller, Herman Gerhard | Tynan |
| Murphy, James Jodie | Bryan |
| Oefinger, Walter Ervin | Yancey |
| Opryshek, John Jose | New Braunfels |
| Powell, Howard Wytte | Red Springs |
| Sanderson, Leron A. | Brownwood |
| Scasta, John Robert | Wheelock |
| Schriner, Willie | Brenham |

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|----------------------------|----------------|
| Scott, Sam Wilks..... | Colorado |
| Starling, Cyril Bryan..... | Alto |
| Stuart, Albert..... | Woodsboro |
| Treibs, Adolf W., Jr..... | Fredericksburg |
| Welsch, Hanno Fritz..... | New Braunfels |
| Williamson, E. H..... | Reagan |
| Winn, Ledyard..... | Muleshoe |
| Winn, Vaughn Pierce..... | Muleshoe |

SUMMARY OF ENROLLMENT, SESSION 1921-22 BY STATES AND FOREIGN COUNTRIES

| | | | |
|--------------------|------|-------------------------|------|
| Texas..... | 1647 | Mexico..... | 9 |
| Arkansas..... | 21 | Brazil..... | 7 |
| Louisiana..... | 21 | India..... | 3 |
| Oklahoma..... | 19 | Argentina..... | 2 |
| Alabama..... | 4 | China..... | 2 |
| Tennessee..... | 4 | Egypt..... | 2 |
| California..... | 3 | Australia..... | 1 |
| Colorado..... | 3 | Cuba..... | 1 |
| Mississippi..... | 3 | Ecuador..... | 1 |
| Florida..... | 2 | England..... | 1 |
| Illinois..... | 2 | Mesopotamia..... | 1 |
| Connecticut..... | 1 | Peru..... | 1 |
| Indiana..... | 1 | Philippine Islands..... | 1 |
| Massachusetts..... | 1 | | |
| New York..... | 1 | | |
| Ohio..... | 1 | | |
| Oregon..... | 1 | | |
| Pennsylvania..... | 1 | | |
| Rhode Island..... | 1 | | |
| Washington..... | 1 | | |
| Wisconsin..... | 1 | | |
| Wyoming..... | 1 | | |
| Total..... | | | 1772 |

SUMMER SESSION 1921

| Name | Division | Address |
|------------------------|------------------------------|-----------------|
| Adams, H. C..... | College..... | Houston |
| Adams, M. H..... | College..... | Forney |
| Alexander, E. R..... | College..... | College Station |
| Alexander, R. K..... | College..... | Weatherford |
| Allen, J. A..... | Special—Federal..... | Sweetwater |
| Alsup, E..... | College..... | Harwood |
| Ammons, C. N..... | College..... | Tabor |
| Ammons, G. M..... | College..... | Tabor |
| Ammons, Mrs. G. M..... | College..... | Tabor |
| Anderson, H. R..... | College..... | Haskell |
| Anderson, J. P..... | Cotton Classing—Federal..... | Bryan |
| Archer, J. F..... | Cotton Classing..... | Bowie |
| Argudin, M. Z..... | College..... | Orizaba, Mexico |
| Armstrong, G. E..... | Cotton Classing..... | Waco |
| Armstrong, P. W..... | College..... | Amarillo |
| Arnold, A. W..... | Auto Mechanics..... | Angleton |
| Aronson, J..... | Cotton Classing..... | Rosebud |
| Ashford, L..... | College..... | Plantersville |
| Ashmore, D. G..... | College..... | Dallas |

| Name | Division | Address |
|----------------------|-------------------------|----------------------------|
| Ashworth, D. B. | College | Weatherford |
| Astin, R. H. | Cotton Classing | Stamford |
| Atkinson, J. T. | Cotton Classing—Federal | McDade |
| Avakian, G. M. | Cotton Classing | Houston |
| Avera, E. B. | College | Augusta |
| Baker, C. L. | Cotton Classing—Federal | Bryan |
| Baker, D. U. | College | Haskell |
| Baker, J. M. | Cotton Classing | Fyffe, Oklahoma |
| Bare, J. H. | College | Yoakum |
| Barron, W. E. | Cotton Classing | Iola |
| Bartlett, J. W. | College | Dallas |
| Baskett, J. L. | College | Dallas |
| Bates, J. J. | College | Prairie Hill |
| Batson, J. | Auto Mechanics | Normangee |
| Beasley, R. M. | Cotton Classing | Campbell |
| Beauchamp, D. S. | Cotton Classing—Federal | Willis |
| Beers, Miss Mary D. | College | Bryan |
| Beesley, B. B. | College | Lancaster |
| Beesley, C. | Farm Boys' Course | Dallas |
| Bell, F. L. | College | Marshall |
| Belt, J. D. | Cotton Classing—Federal | Waco |
| Bennack, G. E. | Auto Mechanics | North Pleasanton |
| Benton, J. H. | Cotton Classing—Federal | Dallas |
| Berlowitz, H. D. | Cotton Classing | Waco |
| Berlowitz, J. O. | Cotton Classing | Houston |
| Berryman, C. C. | College | Stillwater, Okla. |
| Birdwell, L. | College | Overton |
| Bizzell, W. S. | College | College Station |
| Black, L. K. | Cotton Classing—Federal | Temple |
| Blackford, J. M. | Special—Federal | Delavan, Wis. |
| Blankenship, A. E. | Cotton Classing | Timpson |
| Bledsoe, T. | Cotton Classing | Hamlin |
| Blohm, W. | Cotton Classing | Poth |
| Blount, C. | College | San Antonio |
| Bluntzer, R. D. | Cotton Classing | Robstown |
| Boatner, R. H. | Cotton Classing | Bishop |
| Boatwright, M. V. | Cotton Classing | Arlington |
| Bobo, C. E. | College | Bryan |
| Boettcher, R. K. | Cotton Classing | Schulenburg |
| Bone, N. G. | Special—Federal | Richardson |
| Boney, J. W. | Special—Federal | Bedias |
| Boney, W. E. | Cotton Classing | Madisonville |
| Boone, F. J. | College | Bryan |
| Boriskie, F. W. | College | Bryan |
| Bose, J. C. | College | San Antonio |
| Bouly, D. W. | Cotton Classing—Federal | Bryan |
| Bowen, J. R. | Auto Mechanics | Gouldbusk |
| Bowers, A. S. | Cotton Classing | Port Lavaca |
| Bowers, A. S., Jr. | Auto Mechanics | Port Lavaca |
| Bowers, Miss Lucile. | Cotton Classing | Port Lavaca |
| Bowie, J. P. | Cotton Classing—Federal | Oklahoma City, Oklahoma |
| Bowles, G. R. | Cotton Classing—Federal | San Antonio |
| Boyce, J. T. | College | Okolona, Ark. |
| Boyd, R. E. | Cotton Classing—Federal | Jacksonville, Ark. |
| Boyett, A. P. | Cotton Classing | College Station |
| Boyett, C. C. | College | Hope, Ark. |
| Boykin, F. M., Jr. | Cotton Classing | Taft |

| Name | Division | Address |
|--------------------|-------------------------|-------------------|
| Bozeman, J. S. | Cotton Classing | Sulphur Springs |
| Braley, W. L. | Cotton Classing | Denton |
| Brandon, W. T. | Cotton Classing | Waco |
| Brandt, E. D. | College | Temple |
| Brandt, F. D., Jr. | Cotton Classing | Wallis |
| Brengle, H. I. | College | Midway |
| Bridges, R. E. | College | Winfield |
| Brightwell, C. D. | Cotton Classing | Port O'Connor |
| Brooks, J. R. | College | Pilot Point |
| Brown, E. L. | Cotton Classing—Federal | Bryan |
| Brown, G. H. | College | Berwick, La. |
| Brown, P. L. | Cotton Classing | Dallas |
| Brown, R. L. | Cotton Classing | Waco |
| Bruno, T. C. | Cotton Classing | Bay City |
| Buchanan, R. L. | Cotton Classing—Federal | Augusta, Ark. |
| Buckner, F. K. | College | Weatherford |
| Buescher, L. A. | College | Smithville |
| Burden, J. P. | College | Gordonville |
| Burkes, W. M. | College | Reagan |
| Burkhalter, D. F. | Special—Federal | Timpson |
| Burns, H. M., Jr. | Cotton Classing | Austin |
| Burns, W. W. | Special—Federal | Lamesa |
| Busby, D. W. | Special—Federal | Houston |
| Bush, N. A. | College | Bryan |
| Bussey, E. D. | College | Longview |
| Bynum, D. W. | Cotton Classing | Snyder |
| Calhoun, H. H. | Special—Federal | Mt. Olive, Miss. |
| Campbell, R. B. | Special—Federal | Seguin |
| Canion, C. | College | Port Lavaca |
| Cardwell, D. | Cotton Classing | Needville |
| Carlton, R. A. | College | Fort Worth |
| Carmichael, J. F. | College | Granbury |
| Carmichael, P. R. | Cotton Classing—Federal | Granbury |
| Carpenter, J. F. | Cotton Classing—Federal | Commerce |
| Carroll, H. C. | College | Dallas |
| Carroll, P. E. | Cotton Classing | Kenedy |
| Carson, C. W. | College | Eagle Pass |
| Carter, H. | Cotton Classing | Teague |
| Cartwright, E. D. | Cotton Classing | Elgin |
| Casey, T. A., Jr. | Cotton Classing | Cameron |
| Cejka, F. G. | College | Sublime |
| Chamberlain, G. S. | Cotton Classing—Federal | Sulphur Springs |
| Chambers, E. D. | Cotton Classing | Roaring Springs |
| Chappelle, H. L. | College | College Station |
| Chastun, J. H. | Special—Federal | Bryan |
| Cherry, J. H. | Cotton Classing | Rockdale |
| Choate, M. H. | Auto Mechanics | Kenedy |
| Clark, B. C. | College | McAlester, Okla. |
| Clark, P. H. | Special—Federal | Hillsboro |
| Clarke, C. C. | College | Little Rock, Ark. |
| Cleaver, T. T. | College | Troup |
| Cleveland, N. A. | College | Brady |
| Cline, W. B. | College | Bryan |
| Cobb, H. T. | Cotton Classing | Fate |
| Cogg, T. C. | College | Skidmore |
| Cochran, C. V. | College | Gonzales |
| Cocke, C. V. | Cotton Classing | Taylor |

| Name | Division | Address |
|--------------------------|------------------------------|-----------------------|
| Coimbra, J..... | Auto Mechanics..... | Pernambuco, Brazil |
| Colbert, L. L..... | Cotton Classing..... | Oakwood |
| Colbert, W. C..... | Cotton Classing..... | Ardmore, Okla. |
| Collens, R. A..... | Cotton Classing..... | Waxahachie |
| Collins, E..... | Cotton Classing..... | Alvord |
| Collins, J. C..... | Special—Federal..... | Arlington |
| Combs, R. L..... | Cotton Classing—Federal..... | Cleburne |
| Conchola, V..... | Auto Mechanics..... | Marianna |
| Conner, A. D..... | Cotton Classing..... | Coleman |
| Conner, J. T..... | Cotton Classing—Federal..... | Austin |
| Cook, C. C..... | Special—Federal..... | Maxwell |
| Cordell, B. E..... | College..... | San Antonio |
| Corley, C. C..... | College..... | College Station |
| Coutret, H..... | Cotton Classing..... | Charco |
| Cox, M. V..... | Special—Federal..... | Liberty Hill |
| Craft, S. H..... | Cotton Classing..... | Frisco |
| Crane, J. R..... | Cotton Classing..... | Kingsville |
| Cravens, W. O..... | Cotton Classing..... | Honey Grove |
| Crawford, J. M..... | Cotton Classing..... | Stamford |
| Crittenden, W. M..... | Special—Federal..... | College Station |
| Crooke, L. F..... | Cotton Classing—Federal..... | Conroe |
| Crosnoe, C. C..... | College..... | Hope, Ark. |
| Crow, C. L..... | College..... | Groveton |
| Currie, V. M..... | College..... | Houston |
| Curry, F. P..... | Cotton Classing..... | Tyler |
| Cypert, L. V..... | Cotton Classing..... | Bryan |
| | | |
| Daniel, J. S..... | College..... | Corsicana |
| Dart, M. E..... | College..... | Dallas |
| Darwin, J. M..... | Cotton Classing..... | Bryan |
| Davidson, W. E., Jr..... | Cotton Classing..... | Waco |
| Davis, B. C..... | College..... | Sonora |
| Davis, D. P..... | Cotton Classing—Federal..... | Ballinger |
| Davis, H. B..... | Cotton Classing—Federal..... | Fulton, Ark. |
| Davis, J. B..... | Cotton Classing..... | Dorchester |
| Davis, J. J..... | Cotton Classing..... | Gorman |
| Davis, L..... | Farm Boys' Course..... | Bishop |
| Davis, L. C..... | College..... | Rockdale |
| Davis, R. F..... | Cotton Classing..... | Taylor |
| Davison, F. A..... | Farm Boys' Course..... | |
| Dawson, E. P..... | Cotton Classing..... | Maypearl |
| Dean, I. L..... | Auto Mechanics..... | North Zulch |
| Dean, T. N..... | Cotton Classing..... | Grand Saline |
| Dean, W. H..... | Cotton Classing..... | Winters |
| Dearman, J. R..... | Auto Mechanics..... | Marianna |
| Deering, P. A..... | College..... | Yancey |
| Dees, D. B..... | Cotton Classing—Federal..... | Bryan |
| DeLesdernier, W. F..... | Cotton Classing..... | San Antonio |
| Deutschman, B. F..... | Auto Mechanics..... | Fort Worth |
| Dickey, G. L..... | College..... | College Station |
| Dickey, Wilma..... | College..... | McComb |
| Dietrich, P. K..... | College..... | Riverside, N. J. |
| Draper, J. L..... | Cotton Classing..... | Loraine |
| Driggs, O. T..... | Special—Federal..... | Bryan |
| Duke, E. R..... | College..... | Claude |
| Dumas, L. W..... | College..... | Mason |
| Dycus, R. W..... | Cotton Classing..... | Farwell |

| Name | Division | Address |
|------------------------|-------------------------|-----------------|
| Earle, J. R. | Special—Federal | College Station |
| Early, J. D. | Cotton Classing | Waco |
| Eaves, R. A. | Special—Federal | Woodville |
| Ebbersol, E. | Cotton Classing | Stanton |
| Eden, Josephine | College | Bryan |
| Ehrlich, A. L. | Cotton Classing | Austin |
| Eidson, J. P. | Cotton Classing | Karnes City |
| Eiland, C. C. | Cotton Classing | Greenville |
| Elliott, J. W. | College | College Station |
| Emery, O. C. | College | Denton |
| Ernst, L. A. | Auto Mechanics | Marianna |
| Fair, D. L. | Special—Federal | Hillsboro |
| Faulkner, R. C. | College | Sherman |
| Fenner, C. B. | College | Cordele |
| Fenstermaker, A. | College | San Antonio |
| Fitzgerald, J. K., Jr. | College | Beaumont |
| Ford, A. B. | College | Wellborn |
| Ford, A. F. | Cotton Classing | North Zulch |
| Forgason, J. P. | College | San Antonio |
| Forrest, F. B. | College | Waxahachie |
| Foster, T. O. | College | San Antonio |
| Fountain, J. M. | College | Bryan |
| Fox, J. U. | Cotton Classing—Federal | Broadus |
| Fram, P. | College | Dallas |
| Franck, S. R. | College | San Antonio |
| Fraser, C. K. | College | St. Paul |
| Frederick, J. G. | Cotton Classing | Garrison |
| Frederick, W. B. | College | Blooming Grove |
| Freeborough, B. B. | College | San Antonio |
| Freeman, E. M. | College | Marshall |
| Freeman, J. M. | Cotton Classing | Fort Worth |
| Friar, O. | Cotton Classing | Cuero |
| Fridge, C. R. | Cotton Classing | Houston |
| Fritts, T. A. | College | College Station |
| Frnka, J. L. | Cotton Classing | Houston |
| Fullerton, C. B. | Cotton Classing | Sulphur Springs |
| Furman, R. | Cotton Classing | Corpus Christi |
| Fussell, W. S. | College | Polytechnic |
| Galbreath, J. M. | Cotton Classing | Gainesville |
| Gargus, D. A. | Cotton Classing | Trent |
| Garnett, E. W. | College | Denton |
| Garrett, E. H. | Cotton Classing—Federal | Bryan |
| Garrett, G. M. | College | Paris |
| Gatlin, E. N. | College | Ladonia |
| Gawlik, S. I. | Cotton Classing | Karnes City |
| Gay, S. J. | College | Moscow |
| Gearreald, N. | College | Stephenville |
| Gee, S. T. | Cotton Classing—Federal | Waco |
| Gibson, D. E. | College | Port Lavaca |
| Gideon, E. H. | Cotton Classing—Federal | Bryan |
| Giles, D. D. | College | Houston |
| Glazener, V. R. | College | College Station |
| Glover, J. H. | Cotton Classing—Federal | Bettie |
| Gohmert, E. H. | College | Yorktown |
| Gohmert, S. R. | Cotton Classing | Yorktown |
| Goodwin, R. E. | Cotton Classing | Odessa |
| Gourley, W. M. | College | Oklahoma |

| Name | Division | Address |
|------------------------------|-----------------------------------|-----------------|
| Govea, H. | College | Torreón, Mexico |
| Graham, C. M. | College | Bryan |
| Graham, W. P. | College | Bryan |
| Graves, J. W. | Cotton Classing—Federal | Meridian |
| Greathouse, C. W. | Cotton Classing | Portland |
| Green, W. | Cotton Classing | Gilmer |
| Greenwade, D. P. | Cotton Classing | Rochester |
| Greer, D. C. | College | Pittsburg |
| Greer, J. | Farm Boys' Course | Irene |
| Gregg, W. | College | Slidell |
| Gregory, C. R. | Special—Federal | Brookshire |
| Griffith, F. O., Jr. | College | Quanah |
| Griffith, T. E. | Cotton Classing | Fort Worth |
| Grothaus, F. E. | College | San Antonio |
| Guenther, F. M. | Cotton Classing | San Antonio |
| Guiberson, H. R. | College | Seattle, Wash. |
| Gulley, L. | Special—Federal | DeBerry |
| Gunn, J. R. | Cotton Classing | Richland |
| Gunter, H. | Cotton Classing | Gainesville |
| Gustavus, O. C. | Special—Federal | Bryan |
| Haines, L. C. | Cotton Classing | Gatesville |
| Haldeman, H. P. | Cotton Classing | Austin |
| Hale, C. A. | Special—Federal | Bryan |
| Hale, G. C. | Special—Federal | Bryan |
| Hamilton, A. J. | Auto Mechanics | Port Arthur |
| Hammer, V. H. | Special—Federal | Timpson |
| Handrick, J. A. | College | Lincoln |
| Hannaford, W. E. | College | Granbury |
| Hardman, B. J. | Special—Federal | Freeport |
| Hardy, E. H. | College | Abilene |
| Harper, F. | Special—Federal | Cooper |
| Harrell, E. | Cotton Classing | Waco |
| Harrell, J. D. | Cotton Classing | Colorado |
| Harris, J. W. | Cotton Classing | Houston |
| Harris, R. C. | Cotton Classing | Dike |
| Harrison, K. | Farm Boys' Course | Devine |
| Hatanaka, T. | Cotton Classing | Fort Worth |
| Hawtof, E. M. | Cotton Classing | Waco |
| Haynie, C. W. | Cotton Classing | Kemp |
| Heap, E. | Cotton Classing | Taylor |
| Hester, S. G. | College | Thomas |
| Hickman, T. C. | College | Hondo |
| Hicks, E. V. | Cotton Classing | Savoy |
| Hicks, J. E. | Cotton Classing | Tyler |
| Hill, D. H. | Cotton Classing | Ballinger |
| Hill, R. D. | College | Dawson |
| Hines, J. H. | College | Austin |
| Hogan, W. | Cotton Classing—Federal | Percilla |
| Holder, W. H. | Special—Federal | Bryan |
| Holland, J. W. | Special—Federal | Bryan |
| Horn, W. C. | College | Montgomery |
| Horne, O. L. | Special—Federal | Maverick |
| Howell, L. D. | College | Bexar, Alabama |
| Howell, R. H. | College | Bexar, Alabama |
| Hudgins, J. W. | College | Forney |
| Hudson, D. | College | Mart |
| Hughes, D. A. | Cotton Classing | Dallas |
| Hughes, E. S. | Cotton Classing | Fort Worth |

| Name | Division | Address |
|--------------------|-------------------------|----------------------------|
| Hughes, J. M. | College | Bryan |
| Hugon, L. R. | College | Gainesville |
| Humphrey, J. W. | Cotton Classing | Lindall |
| Hundley, P. | Cotton Classing | Dallas |
| Hunnicutt, J. R. | College | Marlin |
| Hunt, J. | Special—Federal | Winslow, Indiana |
| Hunt, R. L. | College | Bryan |
| Hurst, E. L. | Cotton Classing | Roby |
| Hurt, S. F. | Cotton Classing | Austin |
| Hyland, G. G. | College | College Station |
| Hyland, Kathryn M. | College | College Station |
| Ingram, M. | Cotton Classing | Paris |
| Irwin, K. W. | College | Teague |
| Irons, W. B. | Cotton Classing | Paducah |
| Jackson, B. H. | County Agents' Course | Crystal City |
| Jarvis, N. H. | Cotton Classing | Troup |
| Jennings, C. | Cotton Classing—Federal | Bryan |
| Jernigan, J. A. | College | Abilene |
| Johnson, P. | Cotton Classing | Melvin |
| Johnson, R. R. | Farm Boys' Course | Webster |
| Johnson, W. H. | Cotton Classing | Hico |
| Johnson, W. H. | Special—Federal | Bryan |
| Jones, B. D. | Special—Federal | Comanche |
| Jones, C. H. | Cotton Classing | Temple |
| Jones, C. V. | Cotton Classing | Baird |
| Jones, J. D. | Special—Federal | Bryan |
| Jones, R. S. | Cotton Classing | Montalba |
| Jordan, N. B. | Cotton Classing | Waxahachie |
| Josserand, P. L. | Special—Federal | Galveston |
| June, M. M. | Auto Mechanics | College Station |
| Justiss, O. R. | Auto Mechanics | Omaha |
| Kehrer, A. J. | Special—Federal | San Antonio |
| Kelley, E. D. | Cotton Classing—Federal | Conroe |
| Kelly, B. F. | Cotton Classing—Federal | Bryan |
| Kerr, H. S. | College | Amarillo |
| Kerr, J. F. | College | Thurber |
| Key, K. B. | College | McKinney |
| Kiber, D. H. | College | Arlington |
| Kinard, J. M. | Cotton Classing—Federal | Junction City, Arkansas |
| King, C. J. | Auto Mechanics | Batesville |
| Knight, C. M. | Special—Federal | Miller Grove |
| Knight, J. E. | Auto Mechanics | Palestine |
| Knippa, M. | Cotton Classing | Knippa |
| Koenig, E. A. | College | Bryan |
| Krauss, F. C., Jr. | Cotton Classing | Kaufman |
| Krenek, J. J. | Cotton Classing | Bryan |
| Kreusler, W. | Special—Federal | Cibolo |
| Ladd, G. L. | Cotton Classing—Federal | Pattonville |
| Laden, W. W. | Cotton Classing | Bryan |
| Lancaster, V. Z. | Cotton Classing | Granbury |
| Lander, O. M. | Cotton Classing | Victoria |
| Latimer, Fulton | Cotton Classing—Federal | Bryan |
| Laurie, B. E. | Cotton Classing | Austin |
| Law, F. | Cotton Classing | Madisonville |

| Name | Division | Address |
|------------------------|-------------------------|--------------------|
| Lawler, Miss Genevieve | College | Bryan |
| Leatherman, H. T. | Cotton Classing | Bartlett |
| Ledbetter, A. | College | Brady |
| Lee, I. D. S. | Cotton Classing—Federal | College Station |
| Lee, R. O. | Cotton Classing—Federal | Marshall |
| Lee, S. D. | College | Elizabeth, La. |
| LeMay, S. R. | College | Cooledge |
| Leslie, C. | Cotton Classing—Federal | Ashdown, Ark. |
| Lester, T. M. | Cotton Classing | Corpus Christi |
| Lewis, C. C. | Auto Mechanics | Jonesboro, La. |
| Lindholm, C. M. | Cotton Classing | George West |
| Lindholm, E. | Cotton Classing | George West |
| Lindsey, R. | Auto Mechanics | Lott |
| Lininger, G. L. | Cotton Classing | Galveston |
| Lloyd, A. C. | College | Reagan |
| Lokey, C. B. | Cotton Classing | Lubbock |
| Love, B. S. | College | Franklin |
| Loyd, J. L. | Cotton Classing—Federal | Russellville |
| McAfee, R. H. | Cotton Classing | Madisonville |
| McAllister, T. U. | College | Fort Worth |
| McCall, S. B. | Cotton Classing | Waco |
| McCarter, T. A. | College | Galveston |
| McCartney, T. E. | Cotton Classing | Waxahachie |
| McCarty, T. J. | College | Cisco |
| McClane, N. R., Jr. | Cotton Classing | Kenedy |
| McCleskey, B. | Farm Boys' Course | Irene |
| McDonald, E. O. | Cotton Classing—Federal | Abilene |
| McDonald, G. M. | Auto Mechanics | Athens |
| McDuffie, A. L. | Cotton Classing | Dallas |
| McFarland, H. | Cotton Classing | Brownwood |
| McFarland, J. C. | College | Boerne |
| McGlothing, A. V. | College | Waelder |
| McGrath, R. | Cotton Classing | Timpson |
| McIlvain, H. M. | Cotton Classing | Rockwood |
| McKain, E. B. | Cotton Classing | Greenville |
| McKean, E. B. | Cotton Classing | Luling |
| McKinney, W. H. | College | Lewisville |
| McKnight, T. W. | College | Hallettsville |
| McKoy, E. C. | College | Rockwall |
| McLaury, W. R. | College | Snyder, Okla. |
| McLemore, F. E. | Special—Federal | Bryan |
| McNelly, C. B. | College | Uvalde |
| McNiel, H. R. | College | Moore |
| McPheeters, W. H. | College | College Station |
| McRimmon, M. D. | College | Troup |
| McSwain, R. F. | College | Wellborn |
| McWhirter, B. F. | Cotton Classing | Kemp |
| MacFarland, G. O. | College | Houston |
| Magee, J. B. | Cotton Classing | Lockhart |
| Maizumi, F. G. | Cotton Classing | San Antonio |
| Mallow, R. | Auto Mechanics | McKinney |
| Malone, M. L. | College | Coleman |
| Mangum, J. F. | College | Hempstead |
| Manning, E. M. | College | College Station |
| Manning, P. | College | Leonard |
| Martin, F. | Cotton Classing | Russellville, Ark. |
| Martin, F. P. | Cotton Classing—Federal | Bryan |

| Name | Division | Address |
|----------------------|-------------------------|---------------------------|
| Martin, T. J. | College | Dallas |
| Martins, K. | Farm Boys' Course | Iowa Park |
| Masuda, B. J. | College | Cairo, Egypt |
| Matney, E. A. | College | Fort Worth |
| Matthews, Mrs. W. H. | College | College Station |
| Maxson, T. E. | College | Fort Worth |
| May, I. M. | College | Normangee |
| Mayfield, L. | College | Bryan |
| Medbery, C. A. | College | Riverside, R. I. |
| Meitzen, R. J. | College | San Antonio |
| Menefee, T. B. | Auto Mechanics | Port Arthur |
| Messenger, F. | College | Decatur |
| Mierzwik, H. | Auto Mechanics | Belton |
| Mieth, A. J. | Cotton Classing | New Ulm |
| Milazzo, L. C. | College | Texarkana, Ark. |
| Miles, W. J. | College | Mineral Wells |
| Miller, C. | Cotton Classing | Clifton |
| Miller, R. V. | Cotton Classing | Houston |
| Miller, W. J. | Cotton Classing | Smithville |
| Milligan, R. J. | College | McKinney |
| Milroy, W. R. | Cotton Classing—Federal | Bryan |
| Mims, G. H. | College | Austin |
| Mitchell, H. A. | Cotton Classing | Rush Springs, Oklahoma |
| Mixson, E. | Cotton Classing | Commerce |
| Mogford, A. C. | College | Streeter |
| Monk, J. W. | College | Center |
| Montford, W. | Cotton Classing—Federal | Bridgeport |
| Montgomery, S. | Cotton Classing | Waco |
| Montgomery, W. E. | Cotton Classing | Bartlett |
| Moore, J. H. | Cotton Classing—Federal | Bryan |
| Moore, J. I. | College | Hubbard |
| Moore, T. M. | College | Kurten |
| Moore, W. | Cotton Classing | Charco |
| Moosberg, J. O. | County Agents' Course | Wills Point |
| Morgan, E. H. | College | Houston |
| Morgan, R. F. | Cotton Classing | Honey Grove |
| Morris, A. A. | Auto Mechanics | San Antonio |
| Morrow, B. L. | Auto Mechanics | Robstown |
| Morse, J. S. | Auto Mechanics | Brady |
| Mosley, J. E. | Cotton Classing—Federal | North Zulch |
| Mulvey, W. B. | College | Houston |
| Neal, G. T. | College | Fort Worth |
| Neill, Zola. | College | Athens |
| Nelson, G. B. | College | Greenville |
| Nelson, J. C. | Cotton Classing—Federal | Mangum, Okla. |
| Newhouse, E. A. | College | Canton, Ohio |
| Oates, E. J. | Cotton Classing | Waco |
| Odom, A. M. | Cotton Classing | Stonewall, Okla. |
| Odom, W. E. | Cotton Classing | Austin |
| Olson, A. M. | College | Clifton |
| Orr, J. A. | College | Blytheville, Ark. |
| Osborne, S. V., Jr. | Cotton Classing | Brandon |
| Owen, B. | Special—Federal | Bryan |
| Page, H. H. | Cotton Classing | Lockhart |
| Park, P. S., Jr. | College | Bryan |

| Name | Division | Address |
|--------------------|-------------------------|---------------------------|
| Parker, C. D. | College | Dilley |
| Parker, Mrs. C. D. | College | Dilley |
| Parker, W. P. | College | Baird |
| Parsons, E. | Cotton Classing | Caddo Mills |
| Parsons, J. M. | College | Greenville |
| Paschal, S. S. | Special—Federal | Mt. Calm |
| Pate, R. W. | Cotton Classing—Federal | West |
| Patterson, F. H. | College | Yancey |
| Patterson, H. S. | Cotton Classing—Federal | Bryan |
| Patterson, R. C. | College | Brownwood |
| Pauls, E. C. | Cotton Classing | Paige |
| Perdue, R. L. | College | Reagan |
| Perkins, A. B. | Farm Boys' Course | Burlington |
| Perkins, L. S. | Cotton Classing—Federal | Bryan |
| Perritte, S. V. | College | Wallis |
| Peter, R. A. | Cotton Classing | Yoakum |
| Peterson, H., Jr. | Auto Mechanics | Chocolate Bayou |
| Petty, S. | Auto Mechanics | Gouldbusk |
| Phillips, R. | College | Duncan, Okla. |
| Platt, E. G. | Cotton Classing | Palestine |
| Popham, T. A. | College | Floresville |
| Porter, C. R. | Cotton Classing—Federal | Gainesville |
| Porter, J. W. | College | Terrell |
| Potts, C. B. | College | Batesville |
| Potts, T. P. | College | Valley Mills |
| Powledge, L. R. | College | Hico |
| Presnal, E. | Special—Federal | Bryan |
| Prewitt, J. A. | Special—Federal | Round Rock |
| Price, A. J. | Cotton Classing | Tyler |
| Price, E. O. | Cotton Classing | Hermitage |
| Price, E. W. | College | College Station |
| Probst, A. E. | Cotton Classing | George West |
| Pulliam, W. E. | Cotton Classing—Federal | Yoakum |
| Radi, S. A. | College | Bagdad, Mesopotamia |
| Rainbolt, H. M. | Cotton Classing | Abilene |
| Ramsey, C. H. | Special—Federal | Bryan |
| Rankin, A. J. | Cotton Classing | Elgin |
| Rawls, S. S. | College | Webster |
| Reasonover, J. V. | Cotton Classing | Kemp |
| Redding, I. K. | College | College Station |
| Redditt, T. G. | College | Center |
| Reece, R. | College | Farmersville |
| Reed, C. V. | College | Wortham |
| Reed, T. F. | College | Clayton |
| Reid, T. J. | Cotton Classing | Gonzales |
| Rektorik, J. | Farm Boys' Course | Violet |
| Rendall, E. A. | College | Brownsville |
| Reynaud, O. F. | College | Houston |
| Richards, W. B. | College | Kilgore |
| Riggs, O. B. | Cotton Classing | Quinton, Okla. |
| Riggs, T. E. | College | Gainesville |
| Rikard, B. F. | College | Percilla |
| Roberts, P. H. | Special—Federal | Itasca |
| Roberts, S. | Cotton Classing | Rush Springs, Oklahoma |
| Robinson, B. B. | College | Galveston |
| Rogers, F. R. | Cotton Classing—Federal | Monticello, Ark. |
| Rogers, W. C. | Cotton Classing | Kopperl |

| Name | Division | Address |
|-----------------------|-------------------------|-----------------|
| Rollins, J. T. | College | Greenville |
| Rollins, W. F. | Cotton Classing | Noble, Oklahoma |
| Romberg, L. D. | College | Holland |
| Roper, W. N. | College | Rosebud |
| Rosborough, J. F. | College | Marshall |
| Rosborough, R. A. | College | Marshall |
| Roscoe, S. | Cotton Classing | Waco |
| Ross, L. R. | Cotton Classing | Bowie |
| Rowland, C. E. | Cotton Classing | Longview |
| Rowland, W. M. | Special—Federal | Bryan |
| Rush, H. D. | College | Marlin |
| Rush, S. P. | Farm Boys' Course | Bryan |
| Russell, F. E. | Cotton Classing—Federal | Ladonia |
| Ryan, O. T. | College | Livingston |
| Rye, S. H. | Cotton Classing | Lamar, Arkansas |
| Sandel, J. M. | College | Bryan |
| Sanders, J. H. R. | Cotton Classing—Federal | Anson |
| Saunders, J. L. | College | Smithville |
| Sawyer, C. M. | Special—Federal | Millican |
| Sayles, C. M. | College | Abilene |
| Scales, R. H. | College | San Antonio |
| Schroeder, R. C. | Auto Mechanics | Brenham |
| Schuttee, E. A. | College | Bryan |
| Scofield, R. M. | College | Gainesville |
| Seelke, A. G. | College | Giddings |
| Seyle, S. R. | College | College Station |
| Sheffield, J. M., Jr. | College | Mart |
| Shoemaker, E. F. | Cotton Classing | College Station |
| Shropshire, P., Jr. | Cotton Classing | Fort Worth |
| Shuler, H. | Cotton Classing | Snyder |
| Simmons, E. | Auto Mechanics | Normangee |
| Simmons, W. E. | College | Dayton |
| Sims, C. T. | College | Cleveland |
| Sims, J. W. | Cotton Classing—Federal | Mexia |
| Singleton, J. V. | Cotton Classing | Marquez |
| Skains, W. T. | College | Franklin |
| Skinner, A. A. | College | China |
| Smith, C. | Cotton Classing | Melvin |
| Smith, C. C. | Special—Federal | Bryan |
| Smith, C. T. | College | Pittsburg |
| Smith, E. | College | Bryan |
| Smith, H. J. | Cotton Classing | Ector |
| Smith, R. D. | Auto Mechanics | Brownsville |
| Smith, T. D. | Special—Federal | Alba |
| Smith, W. H. | Cotton Classing | Houston |
| Smith, W. K. | College | Gatesville |
| Smith, W. S. | College | Albany |
| Smotherman, M. | College | College Station |
| Smyth, L. L. | College | Mart |
| Snow, J. C. | College | Leonard |
| Solomon, H. | Cotton Classing | Bowie |
| Sonka, M. J. | Cotton Classing | Seguin |
| Sooter, C. E. | Cotton Classing | Slaton |
| Spivey, J. R. | College | Fort Worth |
| Spiekermann, H. F. | Cotton Classing | Falfurrias |
| Squires, W. R. | Cotton Classing | Dallas |
| Stallings, A. | College | Bryan |
| Stark, J. A. | College | Sealy |

| Name | Division | Address |
|---------------------|-------------------------|-----------------------|
| Stephens, G. R. | College | Mission |
| Stewart, H. | Cotton Classing | Granger |
| Stewart, M. P. | College | Kirbyville |
| Stiles, W. A. | College | Waco |
| Story, F. G. | College | Enloe |
| Strange, J. H. | College | Mart |
| Strange, W. T., Jr. | College | Ardmore, Okla. |
| Strain, W. | Cotton Classing | Millsap |
| Straughan, G. R. | Special—Federal | Lovelady |
| Stribling, R. C. | College | Rockdale |
| Strickland, A. C. | College | Groesbeck |
| Strickland, J. W. | Cotton Classing | Garrison |
| Striegler, R. H. | College | Fredericksburg |
| Stubbs, F., Jr. | Farm Boys' Course | Robstown |
| Suggs, F. M. | Cotton Classing | Abilene |
| Sullivan, A. L. | Cotton Classing—Federal | Atar, Oklahoma |
| Sullivan, W. J. B. | College | Fort Worth |
| Summers, W. R. | College | Corsicana |
| Svetlik, F. H. | Cotton Classing—Federal | Bryan |
| Sylvester, J. W. | Special—Federal | College Station |
| Talbert, E. H. | Cotton Classing—Federal | Cabot, Arkansas |
| Tanner, C. | Cotton Classing | Wolfe City |
| Taylor, E. W. | College | Houston |
| Thacker, T. | Cotton Classing | Houston |
| Thadani, K. I. | College | Karachi, India |
| Thomas, E. O. | Cotton Classing | Soper, Oklahoma |
| Thomas, R. B. | College | Dallas |
| Thorington, W. L. | Cotton Classing | Taft |
| Thurmond, M. F. | College | Meridian |
| Tiner, W. D. | College | Uvalde |
| Tinsley, J. E. | Cotton Classing | Madisonville |
| Tomlinson, A. L. | College | Marlin |
| Tompkins, J. F. | College | Corpus Christi |
| Townsend, A. | Cotton Classing | Snyder |
| Tracy, W. C. | Cotton Classing—Federal | Victoria |
| Trotter, W. L. K. | Cotton Classing | Camden, S. C. |
| Tucker, J. C. | College | Brenham |
| Tune, S. D. | Special—Federal | Big Sandy |
| Tunnell, B. F. | College | Forney |
| Turner, D. L. | College | Bryan |
| Upshaw, R. E. | Cotton Classing—Federal | Bryan |
| Ussery, A. | Cotton Classing | Luling |
| Valdez, R. | College | Guayaquil, Ecuador |
| Vance, T. B. | Auto Mechanics | Devine |
| Van Horn, R. M. | College | Fort Worth |
| Van Tuyl, A. J. | College | Fort Worth |
| Van Tuyl, T. B. | College | Fort Worth |
| Varisco, B. T. | Cotton Classing | Steeles Store |
| Venable, O. T. | Cotton Classing—Federal | Hope, Arkansas |
| Vernon, L. | Cotton Classing | Alamo, Tennessee |
| Walker, A. | Cotton Classing | Tyler |
| Walker, H. H. | College | Tyler |
| Walker, R. E. | College | Cooper |
| Warburton, J. R. | Cotton Classing | Falfurrias |

| Name | Division | Address |
|-------------------|-------------------------|-------------------------------|
| Ward, L. L. | Cotton Classing—Federal | Bryan |
| Warren, R. L. | Cotton Classing—Federal | Paris |
| Waters, B. M. | Cotton Classing | Ringgold |
| Watson, J. Y. | Cotton Classing | Groveton |
| Watson, R. D. | Cotton Classing | Newcastle |
| Watson, R. J. | Cotton Classing—Federal | Newcastle |
| Webb, C. A. | College | San Antonio |
| Webb, C. M. | College | San Antonio |
| Webb, E. | College | San Antonio |
| Wehmeyer, E. | Cotton Classing | Port Lavaca |
| Welch, J. G. | Special—Federal | Bryan |
| Wells, L. M. | College | Corbet |
| Wells, R. T. | Auto Mechanics | West Plains, Mo. |
| West, S. G. | College | Canton |
| Whalin, R. E. | Cotton Classing | New York City |
| White, T. | College | Sealy |
| White, T. D. | Farm Boys' Course | Uvalde |
| Whitehead, B. F. | Cotton Classing—Federal | Hearne |
| Whitemore, P. | Cotton Classing | Munday |
| Wickes, H. E. | Cotton Classing | Galveston |
| Wilbanks, J. W. | Cotton Classing | Paint Rock |
| Wilburn, J. B. | Special—Federal | Ladonia |
| Wilcox, A. H. | College | Teague |
| Wilcox, G. B. | College | College Station |
| Wiley, J. W. | Cotton Classing | Munday |
| Wilkerson, W. W. | College | Hearne |
| Wilkins, C. A. | College | Hasse |
| Williams, O. T. | College | Springtown |
| Williams, R. B. | College | Albany |
| Williamson, W. C. | Cotton Classing | Belton |
| Willis, W. H. | College | Bryan |
| Willis, W. S. | College | Beeville |
| Willson, C. M. | Cotton Classing | Fort Payne, Ala. |
| Wilson, E. A. | College | Leonard |
| Windsor, C. | Auto Mechanics | Normangee |
| Wolfe, G. C. | College | Tyler |
| Womack, H. E. | Cotton Classing | Medill |
| Wood, C. R. | College | Honey Grove |
| Wood, S. H. | Special—Federal | Burleson |
| Woodward, F. T. | Cotton Classing | Santa Anna |
| Works, M. M. | College | Amarillo |
| Worsham, J. L. | Special—Federal | Bryan |
| Wright, S. R. | College | Weatherford |
| Wulff, H. A. | Cotton Classing | Brady |
| Young, W. K. | College | Laredo |
| Zacharias, D. H. | Cotton Classing | Gainesville |
| Zachry, H. B. | College | Houston |
| Zrubek, M. | Cotton Classing | Frenstat, Czecho- Slovakia |
| Zwernemann, A. W. | Cotton Classing | Lincoln |
| Zwernemann, E. T. | Cotton Classing | Lincoln |

SUMMARY OF ENROLLMENT, SESSION 1921-22

DEGREE COURSES

| | Agr. | AA. | Ag.Ed. | V.M. | Ag.Eng. | Arch. | Ch.E. | C.E. | E.E. | M.E. | T.E. | I.E. | Pre-Med | Pre-Law. | Total |
|---------------|------|-----|--------|------|---------|-------|-------|------|------|------|------|------|---------|----------|-------|
| Graduate..... | 8 | ... | 3 | .. | .. | 1 | .. | 5 | .. | 2 | .. | .. | .. | .. | 19 |
| Senior..... | 68 | 3 | 3 | 4 | .. | 7 | 39 | 36 | 40 | 25 | 8 | .. | .. | .. | 233 |
| Junior..... | 64 | 13 | 6 | 2 | .. | 13 | 17 | 38 | 43 | 24 | 7 | 1 | .. | .. | 228 |
| Sophomore.... | 72 | 44 | 1 | 2 | 17 | 19 | 28 | 57 | 62 | 37 | 14 | 2 | 5 | .. | 360 |
| Freshman..... | 102 | 67 | 3 | 4 | 9 | 28 | 38 | 95 | 124 | 70 | 6 | .. | 14 | 2 | 562 |
| | 314 | 127 | 16 | 12 | 26 | 68 | 122 | 231 | 269 | 158 | 35 | 3 | 19 | 2 | 1402 |
| Special..... | 60 | 6 | 15 | .. | 2 | 12 | 2 | 6 | 10 | 6 | 3 | 1 | .. | .. | 123 |

TWO-YEAR COURSES

| | C | H | M | N | Total |
|------------------|----|----|----|----|-------|
| Second Year..... | 25 | 5 | .. | 13 | 43 |
| First Year..... | 41 | 6 | 5 | 26 | 78 |
| | 66 | 11 | 5 | 39 | 121 |

| | |
|--|----|
| Federal Students—Elementary Agriculture..... | 42 |
| Federal Students—Cotton Classing..... | 36 |
| Auto-Mechanics..... | 48 |

Total Regular Session.....1772

| | | |
|-----------------------|----------------------------------|------|
| Summer Session, 1921: | 1. College..... | 294 |
| | 2. Cotton Classing..... | 290 |
| | 3. Federal Students—Special..... | 56 |
| | 4. Farm Boys' Course..... | 13 |
| | 5. Auto Mechanics..... | 34 |
| | 6. County Agents' Course..... | 2 |
| | 7. Farmers' Short Course..... | 642 |
| | | 1231 |

| | |
|--------------------------|------|
| Total..... | 3003 |
| Less names repeated..... | 244 |

Net enrollment, 1921-22.....2759

DEGREES AND CERTIFICATES CONFERRED AT THE FORTY-FIFTH ANNUAL COMMENCEMENT

(May 24, 1921)

Master of Science

In Agriculture (3)

Wrathall King Hanson,
B. S., A. and M. College of Texas, 1916.

Luther Goodrich Jones,
B. S., Princeton University, 1917.

John Henry Wheelock,
B. S., Iowa State College, 1920.

In Architecture (1)

Robert Erroll Merrell,
B. S., A. and M. College of Texas, 1920.

Chemical Engineer (1)

Robert Schaer,
B. S., A. and M. College of Texas, 1919.

Bachelor of Science

In Agricultural Education (3)

Claypool, T. H.
Fritts, T. A.

Hughes, W. L.

In Agriculture (57)

Alsmeyer, L. H.
Attebery, W. H.
Bertschler, F. L.
Birk, C. E.
Bloodworth, J. E., Jr.
Blumenthal, C.
Brison, F. R.
Caldwell, J. M., Jr.
Clinton, D. D.
Cooper, A. M.
Daniel, J. S., Jr.
Dyer, C. B.
Dykes, J. C.
Evans, S.
Figari, C. E.
Friend, W. H.
Hall, T.
Horn, H. B.
Jordan, J. J.

King, W. C.
Kirkland, K. L.
Langston, J. H.
Lewis, T. B.
Livingston, G. D.
Luker, C.
McGee, H. W., Jr.
McPheeters, W. H.
Mahan, J. F.
Martin, G. W., Jr.
Matthews, H. R.
Maxwell, R. H.
Menzies, W.
Mizell, J. L.
Montfort, P. T.
Mortensen, E.
Mowery, R. C.
Northcutt, W. D., Jr.
Percy, A. W., Jr.

Potts, T. P.
Robinson, H. C.
Rollins, J. T.
Rothe, C. H.
Sanders, C. P.
Sanders, J. S.
Sherrill, C. W.
Smith, F. E.
Snell, M. G.
Spessard, W. B.
Stark, J. A.
Thomas, R. R.
Trice, W. P.
Tuerpe, E. C.
Tyson, P. M.
Varnell, E. H.
Ward, E. C.
Warden, C. C. B.
Whitman, C. D.

In Chemical Engineering (12)

Barnes, B. H.
Coffin, P. C.
Denison, G. A.
Easley, R. K.

Farrell, J. L.
Gieseke, J. O.
Japour, M. J.
John, E. G.

Meyer, S.
Phillips, V. H.
Smith, C. R.
Vanderburg, J. E.

In Civil Engineering (21)

Armstrong, W. H.
Buie, F. P.
Cape, J. D.
Clayton, R. L.
Forbes, A. L., Jr.
Gaddis, M. L.
Kempen, G. J., Jr.

Loving, O., Jr.
McKeen, E. E.
Mullane, W. A.
Park, F. L.
Ragsdale, T. W.
Roberts, J. B.
Taylor, W. H., Jr.

Underwood, A. T.
Wagstaff, J. P.
Walker, E. M.
Walker, J. A.
Walker, J. K.
Weinert, M. D.
Woolverton, A. H.

In Electrical Engineering (18)

Baucom, J. W.
Denny, W. M.
Finn, D. J.
Gouger, G. B.
Harding, A. G.
Legg, A. S.

Matthes, L. H.
Merchant, M. W.
Miller, G. B., Jr.
Murphree, D. D.
Peter, A. A.
Pierce, J. A.

Pustejovsky, V. J.
Robinson, E. L.
Scudder, C. F.
Thomas, D. V.
Vinther, P. N.
Woods, J. E.

In Mechanical Engineering (12)

Anderson, G. D.
Axe, P. A.
Bettis, I. H.
Bussell, R. W.

Crippen, W.
Denning, C. O.
Edwards, C. H.
Egger, H. W.

Hatley, A. E.
Leverett, F. M.
Neynaber, A. C.
Westerhoff, A. G.

In Textile Engineering (1)

Warndorf, C. R.

Doctor of Veterinary Medicine (6)

Childers, R. R.
Dunn, S. R.

Johnson, W. T.
Mockford, J. P.

Patton, J. W.
Reid, J. J.

CERTIFICATES IN TWO-YEAR COURSES

Agriculture (27)

Andrews, H. E.
Ashley, R. D.
Bohls, J. G.
Bradley, C. L.
Carmichael, R. H.
Castle, W. G.
Clark, H. J.
Davis, B. C.
DeBerry, G. E.

Dick, J. M., Jr.
Duke, E. R.
Ellwood, L. E.
Gadberry, H.
Harrell, E.
Hobbs, E.
Huey, P.
Johnson, L. L.
Land, V. H.

Magill, W. M.
Morgan, W. R.
Potts, G. S.
Smith, C. C.
Smith, W. K.
Sterling, T. M.
Sumner, B. M.
Sunkel, J. D.
Tate, L. R.

Agricultural Engineering (10)

Alsmeyer, H. L.
Baugh, D. L.
Burnam, R. M.

Camp, B. C.
Doherty, N. M.
Hall, C. E.
Harris, G. F.

Henderson, B.
Hill, A. T.
Newport, F. C.

Engineering (14)

Blake, C. O.
Browning, R. H.
Chapman, S. P.
Dockal, J., Jr.
Douthit, J. D.

Heye, W. H.
Holzapfel, R. O.
Jeffery, I. C.
Marburger, L. F.

Meador, M. L.
Shaw, J. B.
Stobaugh, A. M.
Thomas, F.
Van Hook, R.

DEGREES CONFERRED IN THE 1921 SUMMER SESSION

(August 27, 1921)

Master of Science

In Agriculture (1)

Joel Wallace Elliott,
B. S., New Mexico College of Agriculture and Mechanic Arts, 1915

Bachelor of Science

In Agricultural Education (4)

Graham, W. P.
Moore, T. M.

Skinner, A. A.
Spivey, J. R.

In Agriculture (2)

Romberg, L. D.

Willis, W. S.

In Civil Engineering (1)

Matney, E. A.

SUMMARY OF DEGREES CONFERRED

(May 24, 1921, and August 27, 1921.)

Advanced Degrees:

| | |
|------------------------|---|
| Master of Science..... | 5 |
| Chemical Engineer..... | 1 |

Baccalaureate Degrees:

| | | |
|------------------------------------|--------------------------------|-----|
| Bachelor of Science: | In Agricultural Education..... | 7 |
| | In Agriculture..... | 59 |
| | In Chemical Engineering..... | 12 |
| | In Civil Engineering..... | 22 |
| | In Electrical Engineering..... | 18 |
| | In Mechanical Engineering.... | 12 |
| | In Textile Engineering..... | 1 |
| Doctor of Veterinary Medicine..... | | 6 |
| Total..... | | 143 |

DISTINGUISHED STUDENTS

At the end of each session students who have during the year made no term grade below B shall be announced as "Distinguished."

(Session 1920-21)

Freshman Class

Abrams, N. H.
Black, A. R.
Chapa, E.

Estill, J. F.
Paterson, J.

Santerre, M. L.
Stubbeman, A. W.
Turner, D. L.

Sophomore Class

McDonald, J. H.

Olsen, C. E.

Wilcox, G. B.

Junior Class

Alexander, W. R.
Billingsley, B. C.

Clark, C. R.
Howell, L. D.

Knapp, W. L.
Mayo, J. W.

Senior Class

Alsmeyer, L. H.
Birk, C. E.
Brison, F. R.
Friend, W. H.

Fritts, T. A.
Hatley, A. E.
McGee, H. W.

McPheeters, W. H.
Westerhoff, A. G.
Whitman, C. D.
Woolverton, A. H.

Graduate Students

Cole, R. J.
Hanson, W. K.
Jones, L. G.

Lomanitz, S.
Moore, F. G.

Regenbrecht, E. M.
Westcourt, F. W.
Wheelock, J. H.

MILITARY ORGANIZATION, SESSION 1921-22

The corps of cadets is organized into a regiment of Infantry of two battalions of two companies each, a band, one battalion of signal corps of three companies, one squadron of cavalry of two troops, one battalion of field artillery of two batteries, one squadron of air service of one flight.

Professor of Military Science and Tactics

Major L. R. Dougherty, Field Artillery, U. S. A.

Assistant Professors of Military Science and Tactics

Major W. H. H. Morris, Jr., Infantry, U. S. A.
 Major C. W. Russell, Air Service, U. S. A.
 Major J. F. Davis, Cavalry, U. S. A.
 Captain F. J. de Rohan, Infantry, U. S. A.
 Captain J. O. Lawrence, Cavalry, U. S. A.
 Captain H. J. Fitzgerald, Cavalry, U. S. A.
 Captain J. O. Tarbox, Infantry, U. S. A.
 Captain A. L. Tuttle, Infantry, U. S. A.
 Captain R. W. Wilson, Field Artillery, U. S. A.
 Captain L. A. Kurtz, Signal Corps, U. S. A.
 First Lieutenant H. F. Searight, Field Artillery, U. S. A.
 First Lieutenant H. S. Ruth, Infantry, U. S. A.

Military Department Staff

Master Sergeant J. V. King, U. S. A.
 Technical Sergeant J. C. Hyland, U. S. A., Retired
 First Sergeant T. Cody, U. S. A.
 Staff Sergeant J. Ott, U. S. A.
 Sergeant B. Daniels, U. S. A.

FIELD ARTILLERY DETACHMENT**United States Army**

Sergeants:
 Madden, J. D.
 Redding, I. K.

CAVALRY DETACHMENT**United States Army**

Sergeants:
 Cairnes, A. E.
 Duke, R.

CORPS OF CADETS

COLONEL, FRANKE, P. C., (Inf.), Corps Commander.
 MAJOR, ROPER, W. N., (F. A.), Corps Adjutant

THE BAND

Captain G. L. Boykin, Commanding
 Second Lieutenant, B. B. Cochran
 Second Lieutenant, O. L. Dockum
 Second Lieutenant, F. E. Buchan
 Second Lieutenant, C. E. Davidson

REGIMENT OF INFANTRY**Regimental Staff**

Lieutenant Colonel R. W. Stiles, Regimental Commander
 Captain J. H. Strange, Regimental Adjutant

First Battalion

Major F. Hale, Battalion Commander
 First Lieutenant J. M. Reynolds, Battalion Adjutant

Company "A"

Captain:
 Carruthers, R. L., Company Commander
 First Lieutenants:
 Fischer, C. F., Company
 Frazier, O. H., Company
 Second Lieutenants:
 Collins, L. L.
 Winn, W. E.

Company "B"

Captain:
 Fahey, G. C., Company Commander
 First Lieutenant:
 Porter, J. B., Company
 Second Lieutenants:
 Koehler, E.
 Frede, L. H.

Second Battalion

Major, R. C. Faulkner, Battalion Commander
First Lieutenant, C. C. Crane, Battalion Adjutant

Company "C"

Captain:
Pinson, H. T., Company Commander
First Lieutenants:
Hannafor, W. E., Company
Second Lieutenants:
Payne, W. A.
Real, C.

Company "D"

Captain:
Meitzen, R. J., Company Commander
First Lieutenants:
Crelian, P. G., Company
Second Lieutenants:
Goss, H. T.
Lott, O. C.

BATTALION OF FIELD ARTILLERY

Major W. W. Works, Commanding
Captain L. J. Bourke, Adjutant

Battery "A"

Captain:
Dieterich, A. F., Battery Commander
First Lieutenants:
Davis, Roger F., Battery
Niebuhr, W. A., Battery
Second Lieutenants:
Baskett, J. L.
Hanley, W. W.

Battery "B"

Captain:
Jones, J. H., Battery Commander
First Lieutenants:
Crites, E. A., Battery
Knapp, W. L., Battery
Second Lieutenants:
Orr, J. A.
Cloer, V. U.

SIGNAL CORPS BATTALION

Major H. M. Saunders, Commanding
Captain E. G. Schlather, Adjutant
Captain R. B. Steele, Technical Instructor, Radio
Captain J. J. Wyly, Technical Instructor, Telegraph and Radio Procedure
Captain P. W. Drummett, Technical Instructor, Telephones

Company "A"

Captain:
Dougherty, H., Company Commander
First Lieutenant:
Schmidt, H. E.
Second Lieutenants:
Billingsley, B. C.
Webber, A. T.
Schaefer, Q. B.

Company "B"

Captain:
Dillingham, H. C., Company Commander
First Lieutenants:
Matthes, C. L.
Naschke, B. B.
Second Lieutenants:
Fason, E. B.
Baur, L. W. A.

Company "C"

Captain, Weisbrich, R. A., Company Commander
First Lieutenant, Golden, C. H.
Second Lieutenants:
Clanton, R. W.
Cochran, B. B.

SQUADRON OF CAVALRY

Major, Ballard, W. L., Commanding
Captain, Currie, J. F., Adjutant
First Lieutenant, Burr, J. S., Supply Officer

Troop "A"

Captain:
Bridges, R. E., Troop Commander
First Lieutenant:
Hartung, G. H., Troop
Second Lieutenants:
Williams, W. H.
Mulvey, W. B.
Dockum, O. L.

Troop "B"

Captain:
Giles, D. D., Troop Commander
First Lieutenant:
Hall, R. W., Troop
Second Lieutenants:
Sprague, C. T.
March, J. P.
Doherty, W. T.

AIR SERVICE

Major, Gardner, J. E., Company Commander
Second Lieutenant, Parke, A. L.

OFFICERS UNASSIGNED

Major, C. W. Thomas, Commanding

Captains:

Copeland, C. M.
 Dreeke, H. L.
 Hurley, C. W.
 Wendt, F. T.
 Willard, H. B.
 Chambers, C. H.
 Harrington, M. T.
 Price, R. E.
 Webster, D. H.
 Fouraker, R. W.
 Burns, L. L.
 Foster, T. O.
 Moore, J. C.
 Pattillo, R. E. L.
 Hensarling, T. A.
 Atkins, H. L.
 Thomas, R. B.
 Lynch, W. W.
 Furneaux, W. S.
 Hunt, A. B.
 Cruickshank, J. P.
 Carson, C. W.
 Cockrell, T. J.

First Lieutenants:

Frazier, O. H.
 Rea, H. E.
 Reynolds, J. M.
 Wheeldon, H.
 Yater, J. A.
 Vaughan, R. G.
 Schaedel, F. W.
 Alexander, R. K.
 Boriskie, F. W.

Malone, M. L.
 Knapp, J. A.
 Severn, J. M.
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 Hodges, L. B.
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 Clarke, C. C.
 McCarty, T. J.
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 Jinks, L. C.
 Johnson, A. S.
 Love, W. M.
 Thompson, H. W.
 Dwyer, P. A.
 Bizzell, W. S.
 Zachry, H. B.
 Howell, E. J.
 Carlisle, J. T.
 Mayo, J. W.
 Smith, M. V. F.
 Simmons, W. E.
 Martin, J. W.
 Thompson, O. C.
 Keith, A. C.
 Van Tuyl, A. J.
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 Fuchs, J.

Second Lieutenants:

Christopher, U. E.
 Gurwitz, J. A.

Silvus, W. E.
 Steele, J.
 Taylor, C. L.
 Spreen, H.
 Radditt, T. G.
 Smith, L. A.
 Luckett, C. A.
 Freeman, E. M.
 Opryshek, K.
 Scales, R. H.
 Miles, W. J.
 Notestine, E.
 Patton, W. P.
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 Harris, G. W.
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 Porter, J. W.
 Willis, C. C.
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 Crawford, J. M.
 Foster, W. S.
 Flinn, F. E.
 Key, D. L.
 Landram, A. B.
 Lasseter, W. E.
 Menke, W. M.
 Neely, M. J.

HOWELL TROPHY

The Howell Trophy is a Texas Flag presented to the College in 1903 by Mr. W. S. Howell of Bryan, Texas. A competitive drill is held each year, during Commencement, to determine the best drilled company of infantry. This company is designated the TROPHY COMPANY and carries the flag during the following session. It is authorized to elect a Trophy Sergeant who is the Color Bearer.

BRANDON AND LAWRENCE TROPHY

The Brandon and Lawrence Trophy is the yellow silk embroidered Cavalry standard presented in 1921 by Mr. George Brandon and Mr. Tom Lawrence of Bryan, Texas. A competitive drill is held each year, during Commencement, to determine the best drilled troop of Cavalry. This troop is designated the TROPHY TROOP and carries the flag during the following session. It is authorized to elect a Trophy Sergeant who is the Color Bearer.

WALDROP TROPHY

The Waldrop Trophy is the scarlet silk embroidered Field Artillery standard presented in 1921 by Mr. A. M. Waldrop of Bryan, Texas. A competitive drill is held each year, during Commencement, to determine the best drilled battery of Field Artillery. This battery is designated the TROPHY BATTERY and carries the flag during the following session. It is authorized to elect a Trophy Sergeant who is the Color Bearer.

WALTERS TROPHY

The Walters Trophy is a silver loving cup, presented to the College in 1921 by General Walters, Texas National Guard. This cup is presented to the Cavalry troop having the highest scholarship standing.

ORGANIZATION OF THE ASSOCIATION OF FORMER STUDENTS

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22/23

BULLETIN

OF THE

AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

THIRD SERIES, VOL. 9

JUNE 1, 1923

No. 6



FORTY-SEVENTH ANNUAL CATALOGUE

SESSION 1922-23

WITH ANNOUNCEMENTS FOR 1923-24

Published monthly by the Agricultural and Mechanical College of Texas

Entered as second-class matter August 7, 1913, at the postoffice at College Station, Texas, under the Act of August 24, 1912

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I call therefore a complete and generous education that which fits a man to perform justly, skilfully and magnanimously all the offices, both private and public, of peace and war.—*Milton.*

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CALENDAR

| 1923 | | | | | | | 1924 | | | | | | | 1925 | | | | | | | | | | | | | | |
|-----------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|-------|-------|-----------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|-------|-------|---|
| JULY | | | | | | | JANUARY | | | | | | | JULY | | | | | | | JANUARY | | | | | | | |
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| SEPTEMBER | | | | | | | MARCH | | | | | | | SEPTEMBER | | | | | | | MARCH | | | | | | | |
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| OCTOBER | | | | | | | APRIL | | | | | | | OCTOBER | | | | | | | APRIL | | | | | | | |
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| NOVEMBER | | | | | | | MAY | | | | | | | NOVEMBER | | | | | | | MAY | | | | | | | |
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| | | | | | | | | | | | | | | 30 | | | | | | | 31 | | | | | | | |
| DECEMBER | | | | | | | JUNE | | | | | | | DECEMBER | | | | | | | JUNE | | | | | | | |
| S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | |
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| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 | 29 | 30 | | | | | | 28 | 29 | 30 | 31 | | | | 28 | 29 | 30 | | | | | |
| 30 | 31 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

COLLEGE CALENDAR

1923

Entrance examinations, September 13, 14, 15.
First term begins Wednesday, September 19.
Registration of new students, September 17, 18.
Registration of old students, September 19, 20.
Registration of graduate students, September 21.
Recitations begin September 21, 8 a. m.
Opening exercises, September 21, 10 a. m.
November 11, observance of Victory Day.
Thanksgiving Day, a holiday.
Christmas holidays begin Friday, December 21, at noon.

1924

Christmas holidays end Wednesday, January 2, at reveille.
Recitations resumed, Wednesday, January 2, 8 a. m.
First term ends Friday, February 1.
Second term begins Saturday, February 2.
Registration for second term, January 30, 31, February 1, 2.
Washington's Birthday, February 22, a holiday.
Observance of Texas Independence Day, March 2.
April 15, last day for choosing electives for 1924-25.
San Jacinto Day, April 21, a holiday.
Commencement sermon, Sunday, June 1.
Exhibition of departments and of work of students, Monday, June 2.
Commencement Day, Tuesday, June 3.

PART I
OFFICERS OF ADMINISTRATION AND OF INSTRUCTION

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F. M. LAW, VICE-PRESIDENT.

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BIRD E. WHITE.....*Lancaster.*
JOHN T. DICKSON.....*Paris.*

TERMS EXPIRE 1925

L. J. HART.....*San Antonio.*
R. L. YOUNG.....*Houston.*
W. S. ROWLAND.....*Temple.*

TERMS EXPIRE 1927

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CHAS. E. MARSH.....*Austin.*
MRS. J. C. GEORGE.....*Brownsville.*

S. G. BAILEY, SECRETARY.

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E. O. SIECKE, B. A., B. S.,
State Forester.

M. C. TANQUARY, A. M., Ph. D.,
State Entomologist.

R. B. EHLINGER, M. D.,
Surgeon.

WALTER WIPPRECHT, B. S. A.,
Business Manager.

W. W. KRAFT, B. S.,
Superintendent of Buildings and College Utilities.

B. SBISA,
Advisory Supervisor of Subsistence.

W. A. DUNCAN,
Supervisor of Subsistence.

THE COLLEGE.

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O. W. SILVEY, A. M., Ph. D.,
Professor of Physics.

F. B. CLARK, M. A., Ph. D.,
Professor of Economics.

*Died, March 28, 1923.

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Professor of Entomology.
- J. F. McDONALD, A. M.,
Professor of History.
- E. B. LaROCHE, B. Arch.,
Professor of Architecture.
- LIEUT. COLONEL I. S. ASHBURN,
Commandant.
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Professor of Agricultural Engineering.
- P. K. WHELPTON, B. S.,
Professor of Farm Management.
- G. S. TEMPLETON, B. S.,
Professor of Animal Husbandry.
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- E. OSCAR RANDOLPH, M. A., D. Litt.,
Professor of Geology.
- J. J. RICHEY, C. E.,
Professor of Civil Engineering.
- C. C. TODD, B. S., Colonel, U. S. Army,
Professor of Military Science and Tactics.
- GEORGE SUMMEY, JR., A. M., Ph. D.,
Professor of English.
- GEO. P. GROUT, M. S., M. S. A.,
Professor of Dairy Husbandry.

OTHER OFFICERS OF INSTRUCTION.

*H. E. SMITH, M. E.,
Professor of Steam Engineering.

A. T. POTTS, M. S.,
Professor of Vegetable Gardening.

R. F. SMITH,
Professor of Mathematics.

O. B. WOOTEN, B. S.,
Professor of Applied Electricity.

M. K. THORNTON, B. S., A. M.,
Professor of Industrial Chemistry.

W. L. STANGEL, B. S., A. M.,
Professor of Animal Husbandry.

D. W. WILLIAMS, M. S.,
Professor of Animal Husbandry.

W. H. H. MORRIS, Major, U. S. Army,
Professor of Military Science and Tactics.
(*In charge of Infantry Unit*).

W. J. EMMONS, Sc. B., A. M.,
Professor of Highway Engineering.

L. A. KURTZ, Captain, U. S. Army,
Professor of Military Science and Tactics.
(*In charge of Signal Corps Unit*).

†J. HORACE KRAFT, A. B., B. S.,
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Professor of Military Science and Tactics.
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G. A. GEIST, B. S.,
Professor of Free-hand Drawing.

B. D. MARBURGER, B. S.,
Professor of Railroad Engineering.

J. F. DAVIS, Major, U. S. Army,
Professor of Military Science and Tactics.
(*In charge of Cavalry Unit*).

E. P. HUMBERT, M. S., Ph. D.,
Professor of Genetics.

CHARLES MARTEN, B. S., M. A.,
Professor of Industrial Education.

*On leave, Session 1922-23.

†Acting Head of the Department of Vocational Teaching since April 4, 1923.

T. J. CONWAY, B. S.,
Professor of Poultry Husbandry.

W. H. THOMAS, B. Lit., A. M.,
Professor of English.

F. W. HENSEL, M. S.,
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H. R. BRAYTON, M. S.,
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Professor of English.

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Professor of Civil Engineering.

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Professor of Steam Engineering.

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Professor of Architecture.

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Professor of Military Science and Tactics.
(*In charge of Field Artillery Unit*).

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Associate Professor of Agronomy.

J. W. MITCHELL, B. A.,
Associate Professor of Mathematics.

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Associate Professor of Veterinary Physiology and Pharmacology.

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Associate Professor of Veterinary Medicine.

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Associate Professor of Veterinary Pathology.

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Associate Professor of Dairy Husbandry.

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Associate Professor of Agricultural Engineering.

W. A. STONE, S. B.,
Associate Professor of Chemistry and Chemical Engineering.

R. K. FLETCHER, M. A.,
Associate Professor of Entomology.

L. E. DOWD,
Associate Professor of Textile Engineering.

J. R. McKEE,
Associate Professor (Federal Students).

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Associate Professor of Agronomy.

A. L. DARNELL, B. S., M. A.,
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Associate Professor of Chemistry.

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Associate Professor of Electrical Engineering.

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Associate Professor of Industrial Education.

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Assistant Professor of English.

D. B. MILNER, B. S.,
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E. E. VEZEY, B. S.,
Assistant Professor of Physics.

M. E. COX, B. S.,
Assistant Professor of Mathematics.

S. H. HICKMAN,
Acting Assistant Professor of English.

*FLEMING G. MOORE, B. S.,
Assistant Professor of Chemistry.

O. N. LACKEY, B. S., A. M.,
Assistant Professor of Physics.

F. J. de ROHAN, Captain, U. S. Army,
Assistant Professor of Military Science and Tactics.

G. W. ADRIANCE, M. S.,
Assistant Professor of Horticulture.

T. P. REMY,
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R. S. FOURAKER, B. S.,
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HOWARD BURT, A. B.,
Assistant Professor of Biology.

E. W. MARKLE, B. S.,
Assistant Professor of Electrical Engineering.

A. D. MARTIN, B. S., B. A.,
Assistant Professor of Mathematics.

I. C. SANDERS, B. S.,
Assistant Professor of Physics.

*On leave, Session 1922-23.

ARCHER WOODFORD, B. A.,
Assistant Professor of Modern Languages.

J. O. TARBOX, A. B., Captain, U. S. Army,
Assistant Professor of Military Science and Tactics.

H. F. SEARIGHT, First Lieutenant, U. S. Army,
Assistant Professor of Military Science and Tactics.

R. F. DREITZLER, B. S.,
Assistant Professor of Forestry.

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Assistant Professor of English.

H. J. FITZGERALD, B. S., Captain, U. S. Army,
Assistant Professor of Military Science and Tactics.

J. T. L. McNEW, B. S.,
Assistant Professor of Civil Engineering.

H. S. RUTH, First Lieutenant, U. S. Army,
Assistant Professor of Military Science and Tactics.

H. M. MILTON, M. E.,
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C. W. CRAWFORD, B. S.,
Assistant Professor of Mechanical Engineering.

R. SCHAEER, Ch. E.,
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F. G. RAY, A. B.,
Assistant Professor of Physics.

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Assistant Professor of Biology.

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Instructor in Mechanical Engineering.

L. K. LAURSEN,
Instructor in Mechanical Engineering.

E. M. KING,
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B. F. K. MULLINS, A. B., M. S.,
Instructor in Drawing.

D. E. BAKER, B. S.,
Instructor in Drawing.

J. B. OLIPHINT, B. S.,
Instructor in Rural Sociology.

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Instructor in Chemistry.

FRANK BARDEEN,
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E. B. MIDDLETON, M. S.,
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Instructor in English.

C. E. McCURRY, B. A.,
Instructor in Mathematics.

W. W. McCARTER,
Instructor in Mechanical Engineering.

FRED HALE, B. S.,
Instructor in Animal Husbandry.

SUMMARY OF TEACHING STAFF AS OF APRIL 1, 1923.

| | |
|----------------------------|-------|
| Professors | 56 |
| Associate Professors | 36 |
| Assistant Professors | 41 |
| Instructors | 32 |
| | <hr/> |
| | 165 |
| On leave | 2 |
| | <hr/> |
| | 163 |

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Dean of the College.

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Professor of Textile Engineering.

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B. YOUNGBLOOD, M. S., Ph. D.,
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CHARLES A. FELKER, *Chief Clerk.*
A. S. WARE, *Secretary.*
A. D. JACKSON, *Executive Assistant.*
CHARLES GORZYCKI, *Technical Assistant.*
M. P. HOLLEMAN, JR., *Assistant Chief Clerk.*
R. N. BURROWS, M. A., *Research Librarian.*

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H. SCHMIDT, D. V. S., *Veterinarian.*
V. J. BRAUNER, D. V. M., *Veterinarian.*

Chemist y

G. S. FRAPS, Ph. D., *Chief; State Chemist.*
S. E. ASBURY, M. S., *Assistant Chemist.*
†S. LOMANITZ, B. S., *Assistant Chemist.*
WALDO WALKER, *Assistant Chemist.*
W. C. MITCHELL, B. S., *Assistant Chemist.*
A. PETERSON, B. S., *Assistant Chemist.*

Horticulture

H. NESS, M. S., *Chief.*
W. S. HOTCHKISS, *Horticulturist.*

Animal Industry:

J. M. JONES, A. M., *Chief.*
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G. R. WARREN, B. S., *Swine Husbandman.*
J. L. LUSH, Ph. D., *Animal Husbandman (genetics).*
L. M. MURPHY, *Wool and Mohair Specialist.*
J. D. SUNKEL, *Dairyman.*

Entomology:

M. C. TANQUARY, Ph. D., *Chief; State Entomologist.*
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H. B. PARKS, B. S., *Apiculturist.*
C. S. RUDE, B. S., *Entomologist.*
A. H. ALEX, B. S., *Queen Breeder.*
W. O. VICTOR, JR., *Assistant Entomologist.*

Agronomy

A. B. CONNER, B. S., *Chief.*
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E. B. REYNOLDS, M. S., *Agronomist.*
G. N. STROMAN, M. S., *Agronomist; Farm Superintendent.*
**PEARL DRUMMOND, *Seed Analyst.*

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J. J. TAUBENHAUS, Ph. D., *Chief.*

Cotton Breeding:

- †G. F. FREEMAN, D. Sc., *Chief*.
‡E. P. HUMBERT, Ph. D., *Acting Chief*.
H. E. REA, B. S., *Plant Breeder*.

Farm and Ranch Economics:

- L. P. GABBARD, M. S., *Farm and Ranch Economist*.

Soil Survey:

- **W. T. CARTER, JR., B. S., *Chief*.
H. W. HAWKER, *Soil Surveyor*.
H. V. GEIB, B. S., *Soil Surveyor*.

Feed Control Service:

- B. YOUNGBLOOD, M. S., Ph. D., *Director*.
F. D. FULLER, M. S., *Chief Inspector*.
S. D. PEARCE, *Inspector*.
J. H. ROGERS, *Inspector*.
W. H. WOOD, *Inspector*.
J. J. KELLY, *Inspector*.

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No. 2, Troup, Smith County:
W. S. HOTCHKISS, *Superintendent*.
No. 3, Angleton, Brazoria County:
V. E. HAFNER, B. S., *Superintendent*.
No. 4, Beaumont, Jefferson County:
A. H. PRINCE, B. S., *Superintendent*.
No. 5, Temple, Bell County:
D. T. KILLOUGH, B. S., *Superintendent*.
No. 6, Denton, Denton County:
P. B. DUNKLE, B. S., *Superintendent*.
No. 7, Spur, Dickens County:
R. E. DICKSON, B. S., *Superintendent*.
No. 8, Lubbock, Lubbock County:
R. E. KARPER, B. S., *Superintendent*.
No. 9, Balmorhea, Reeves County:
J. J. BAYLES, B. S., *Superintendent*.
No. 10, College Station, Brazos County: (Feeding and Breeding Substation):
L. J. McCALL, *Superintendent*.
No. 11, Nacogdoches, Nacogdoches County:
G. T. McNESS, *Superintendent*.
**No. 12, Chillicothe, Hardeman County:
A. B. CRON, B. S., *Superintendent*.
No. 14, Sonora, Sutton-Edwards Counties:
E. M. PETERS, B. S., *Superintendent*,
D. H. BENNETT, V. M. D., *Veterinarian*.

§As of March 1, 1923.

*In cooperation with School of Veterinary Medicine, A and M. College of Texas.

**In cooperation with United States Department of Agriculture.

†On leave.

‡In cooperation with School of Agriculture, A. and M. College of Texas.

THE ENGINEERING EXPERIMENT STATION.

WILLIAM BENNETT BIZZELL, Ph. D., D. C. L., LL. D.,
President.

E. J. FERMIER, M. E.,
Professor of Mechanical Engineering.
Director.

ADVISORY COUNCIL.

E. B. La ROCHE, B. Arch.,
Professor of Architecture.

C. C. HEDGES, A. B., Ph. D.,
Professor of Chemistry and Chemical Engineering.

F. B. CLARK, M. A., Ph. D.,
Professor of Economics.

F. C. BOLTON, B. S.,
Professor of Electrical Engineering.

O. W. SILVEY, A. M., Ph. D.,
Professor of Physics.

J. B. BAGLEY, B. A.,
Professor of Textile Engineering.

W. J. EMMONS, Sc. B., A. M.,
Professor of Highway Engineering.

D. SCOATES, A. E.,
Professor of Agricultural Engineering.

J. J. RICHEY, C. E.,
Professor of Civil Engineering.

THE EXTENSION SERVICE.

WILLIAM BENNETT BIZZELL, Ph. D., D. C. L., LL. D.,
President.

T. O. WALTON,
Director.

W. B. LANHAM,
Assistant Director.

S. C. HOYLE,
Editor.

D. L. WEDDINGTON,
Chief Clerk.

Farm Demonstration Work:

H. H. WILLIAMSON, *State Agent.*
R. W. PERSONS, *Assistant State Agent.*
GEO. W. BARNES, *Beef Cattle Specialist.*
J. B. BEERS, *Specialist in Cotton Classing.*
M. R. BENTLEY, *Agricultural Engineer.*
A. B. BUCHANAN, *District Agent.*
G. L. CRAWFORD, *District Agent.*
W. H. DARROW, *District Agent.*
M. M. DAUGHERTY, *Farm Management Specialist.*
JOHN R. EDMONDS, *District Agent.*
E. O. EDSON, *Poultry Husbandman.*
JOHN T. EGAN, *District Agent.*
C. M. EVANS, *Dairy Husbandman.*
S. C. EVANS, *Boys' Club Agent.*
GEO. W. JOHNSON, *District Agent.*
R. R. LANCASTER, *Rural Organizer.*
E. A. MILLER, *Sweet Potato Specialist.*
G. W. ORMS, *District Agent.*
R. R. REPPERT, *Entomologist.*
A. K. SHORT, *Agronomist.*
A. L. SMITH, *District Agent.*
J. E. STANFORD, *District Agent.*
A. P. SWALLOW, *Horticulturist.*
J. LYNN THOMAS, *Dairy Specialist.*
A. L. WARD, *Swine Husbandman.*
T. B. WOOD, *District Agent.*

Home Demonstration Work:

MISS M. HELEN HIGGINS, *State Home Demonstration Agent.*
MISS MILDRED HORTON, *Assistant State Home Demonstration Agent.*
MRS. EDITH M. ANDREWS, *Home Economics Specialist.*
MRS. DORA R. BARNES, *Clothing Specialist.*
MRS. MAGGIE W. BARRY, *Special Agent.*
MISS GERTRUDE BLODGETT, *District Home Demonstration Agent.*
MISS JENNIE CAMP, *District Home Demonstration Agent.*
MISS BENNIE CAMPBELL, *District Home Demonstration Agent.*
MRS. BERNICE CLAYTOR, *Home Economics Specialist.*
MRS. KATE HENLEY DAUGHERTY, *District Home Demonstration Agent.*
MISS BESS EDWARDS, *District Home Demonstration Agent.*
MISS MAMIE LEE HAYDEN, *District Home Demonstration Agent.*
MISS SALLIE F. HILL, *District Home Demonstration Agent.*
MISS MYRTLE MURRAY, *Poultry Specialist.*
MISS MARY JESSIE STONE, *District Home Demonstration Agent.*
MISS HELEN H. SWIFT, *District Home Demonstration Agent.*

Negro Extension Work:

C. H. WALLER, *State Leader.*
H. S. ESTELLE, *District Agent.*
R. H. HINES, *District Agent.*
MRS. M. E. V. HUNTER, *District Agent.*

ADMINISTRATION OF STATE LAWS.

Feed Control Law.

Administered by the Director of the Agricultural Experiment Station.

Fertilizer Law.

G. S. FRAPS, Ph. D.,
State Chemist.

S. E. ASBURY, M. S.,
Assistant State Chemist.

W. H. WALKER,
Assistant Chemist.

H. B. SMITH,
Inspector.

Foul Brood Law.

M. C. TANQUARY, Ph. D.
State Entomologist.

Forestry Law.

E. O. SIECKE, B. A., B. S.,
State Forester.

PAGE S. BUNKER, B. S.,
Agent, Forestry.

R. F. DREITZLER, B. S.,
Assistant State Forester.

OTHER OFFICERS OF THE COLLEGE.

S. G. BAILEY,

Executive Secretary to the President.

Secretary to the Board of Directors.

REV. W. H. MATTHEWS, B. A., B. D.,

Student Adviser, Secretary, Young Men's Christian Association.

FRANK O. MARTIN,

Publicity Secretary.

D. X. BIBLE,

Instructor and Co-ordinator of Physical Training.

JAMES SULLIVAN,

Director of Physical Training.

R. K. CHATHAM,

Manager, Cadet Exchange Store.

P. D. HAMMOND, A. B., B. L. S.,

Assistant Librarian.

MRS. W. H. THOMAS,

Assistant Librarian.

MISS MAMIE RUTH CAMP, B. A.,

Assistant Librarian.

J. R. McKEE,

Student Adviser.

W. B. COOK, B. S.,

Secretary, Association of Former Students.

V. B. EDGE,

Accountant.

W. H. HOLZMANN,

Cashier.

MISS LOUISE HILLYER, B. A.,

Assistant Registrar.

H. H. HOUSE, M. A.,

Associate Professor of Physical Education.

FIRST SERGEANT GEORGE SMART, U. S. Army, Retired,

Assistant Commandant.

JULIAN R. WRIGHT,

Assistant Commandant.

PART II
GENERAL INFORMATION

GENERAL INFORMATION.

LOCATION.

The College is situated at College Station, in the county of Brazos, and is 350 feet above sea level. The Houston & Texas Central and the International & Great Northern Railroads run through the grounds, daily trains stopping at the stations, about 650 yards from the Academic Building. Students and visitors are advised to take train arriving in daytime.

College Station is a money order postoffice. Letters intended for persons at the College should not be directed to Bryan. At College Station there are telegraph and express offices.

HISTORICAL SKETCH.

The Agricultural and Mechanical College of Texas, like the land grant institutions in other States of the Union, owes its origin to an act of Congress, approved July 2, 1862. This act donated public lands to the several States and Territories which might provide colleges for the benefit of agriculture and the mechanic arts, and directed the Secretary of the Interior to issue land scrip to the States in which there was not the requisite quantity of public land. The act further directed that the money derived from this source should constitute a perpetual fund, the principal of which should remain forever undiminished, and the interest of which should be inviolably appropriated by each State to the endowment, support and maintenance of at least one technological college, whose leading object should be, without excluding other scientific and classical studies, and including military tactics, to teach branches of learning pertaining to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life. It was further provided that the provisions of the act should be formally accepted by the State Legislature. By joint resolution approved November 1, 1866, the Legislature of Texas accepted the provisions of the congressional legislation, and accordingly there was issued to Texas scrip for 180,000 acres of public land, which was sold for \$174,000. This amount was invested in Texas 7 per cent gold frontier bonds. At the time of the opening of the College there was an addition to the fund of accrued interest amounting to \$35,000, which was invested in 6 per cent State bonds.

In an act approved April 17, 1871, the Legislature provided for the establishment of the Agricultural and Mechanical College. A commission to locate the College was created by the Legislature. After careful investigation, the Commission accepted the proposition of the citizens of Brazos county, and located the institution on a tract of 2416 acres of land in that county. Finally, the constitutional convention of 1876 constituted the College a branch of the University of Texas, and,

in accordance with the terms of the Federal legislation, designated it as an institution for instruction in agriculture and the mechanic arts and the natural sciences connected therewith. The convention further provided that the Legislature should have the right to levy taxes for the maintenance and support of the Agricultural and Mechanical College.

The College was formally opened for the reception of students October 4, 1876. By means of financial aid voted by Congress and of appropriations made by the State Legislature, there has been developed a considerable foundation at the College for instruction, for investigation, and for extension.

GOVERNMENT.

The government of the College is vested in a board of nine directors, appointed by the Governor for terms of six years.

ADMINISTRATION.

The immediate regulation and direction of the affairs of the College are delegated by the Board of Directors to the President and the Faculty.

ORGANIZATION.

The College comprises the Schools of Agriculture, of Engineering, of Veterinary Medicine; the Agricultural Experiment Station, the Engineering Experiment Station, the Extension Service, and the Summer Session.

DEPARTMENTS.

The College has now in operation thirty-one departments of instruction, which are listed under the heading "Courses of Instruction by Departments."

DISCIPLINE.

Discipline is administered by the Commandant. The regulations are designed with the view of securing consistent conformity to the following

General Requirement.—Every student is expected at all times to conform to the ordinary rules of gentlemanly conduct; to be truthful; to respect the rights of others; to be punctual and regular in attendance upon all required exercises; to apply himself diligently to his studies; and to have due regard for the preservation of College property.

Students are not allowed to leave the College grounds, either to visit neighboring towns or their homes, without first securing a furlough from the Commandant. When a student overstays a furlough his name may be dropped from the rolls.

For improper conduct, or failure to keep up with his studies, a student may at any time be required to withdraw from the College.

HAZING.

Hazing is forbidden by the law of the State and by College regulations. Every student, upon re-entering the College after his first year, is required to sign a pledge that he will not engage in hazing while he is a

student of the College. These pledges are to be witnessed by the parent or guardian of the student.

RESERVE OFFICERS' TRAINING CORPS.

The act of Congress of June 3, 1916, known as the National Defense Act, provides for the establishment in civil educational institutions of units of the Reserve Officers' Training Corps (R. O. T. C.). The object of the Reserve Officers' Training Corps is best stated by the War Department in its Special Regulations No. 44, which govern the R. O. T. C., and is as follows:

“Object.—The primary object of the Reserve Officers' Training Corps is to provide systematic military training at civil educational institutions as reserve officers in the military forces of the United States. It is intended to attain this object during the time that students are pursuing their general or professional studies with the least practicable interference with their civil careers, by employing methods designed to fit men physically, mentally, and morally for pursuits of peace as well as pursuits of war. It is believed that such military training will aid greatly in the development of better citizens. It should be the aim of educational institutions to maintain one or more units of the Reserve Officers' Training Corps in order that in time of national emergency there may be instantly available a large number of educated men physically efficient and trained in the fundamentals of military science and tactics and fitted to lead intelligently the units of the armies upon which the safety of the country will depend. The extent to which this object is accomplished will be the measure of the success of the Reserve Officers' Training Corps.”

MILITARY ORGANIZATION.

All military instruction is under the immediate charge of the Professor of Military Science and Tactics. The officers of the Cadet Corps are selected from the Senior class, non-commissioned officers from the Junior and Sophomore classes.

The cadet corps consists of units in the Infantry, Field Artillery, Aviation, Signal Corps and Cavalry branches of the service. The instruction is divided into Basic and Advanced Courses. When entered upon, these courses become prerequisites to graduation, and carry credits corresponding to other college work.

BASIC COURSE.

All students of this institution who are physically fit are required to take this course unless excused by the Faculty for one of the following reasons:

- (a) A minimum of six months' service in the Army, Navy or Marine Corps during the World War.
- (b) Completion of the Basic Course in an advanced unit elsewhere.
- (c) Mature men entering College with advanced standing in a considerable number of subjects may, for reasons satisfactory to the Faculty, be exempted.

Obligations.—Members of the Basic Course are not obligated further than to pursue the course diligently and properly to care for equipment and apparatus used in the institution.

Benefits.—Each student will be furnished commutation of uniform, which at the present time amounts to \$30 the first year and \$6 the second year, provided that amount has been expended for uniform.

ADVANCED COURSE.

In order to continue in the R. O. T. C. for the advanced course, i. e., during the Junior and Senior years, a student must be selected by the President of the institution and the Professor of Military Science and Tactics, and he must obligate himself to attend the advanced course camp as prescribed by the Secretary of War. This course, including the prescribed camp training, when entered upon, becomes a prerequisite to graduation.

Obligations.—The student obligates himself:

- a. To pursue the course while at the College.
- b. To attend the advanced course camp.
- c. To take proper care of the equipment furnished him.
- d. He is expected, though not bound, to accept a commission in the Officers' Reserve Corps if offered one, unless prevented by unusual conditions.

Benefits.—a. He will receive commutation of uniforms at the rate of \$30 for the first year and \$6 for the second year.

b. He will be furnished subsistence now allowed at 30 cents per day from the beginning of his Junior year to the end of his Senior year, excepting during camp when he is given rations in kind. Commutations of rations will not be paid for more than two years.

c. While at camp he will receive 70 cents per day, and will also receive transportation to and from camp.

d. After graduation he may be eligible for appointment as officer in the Reserve Corps.

e. Honor graduates are eligible for appointment as second lieutenant, U. S. Army, with only the physical examination necessary.

f. Graduates may be given opportunities to take competitive examinations for Regular Army commission.

Eligibility for Different Branches of the Service.—All students entering the College as Freshmen are eligible to enroll in the Infantry, Field Artillery, or Cavalry. All Freshmen enrolling for the four-year electrical engineering course or who have had the equivalent training prior to entering College are eligible to enroll in the Signal Corps unit. All Freshmen enrolling for a four-year course in civil engineering, mechanical engineering, chemical engineering, electrical engineering are eligible for enrollment in the Air Service provided they submit at date of registration a letter signed by parent or guardian authorizing their enrollment in the Air Service unit.

WITHDRAWAL FROM R. O. T. C.

For satisfactory reasons, upon recommendation of the Professor of Military Science and Tactics, the authorities of the institution may dis-

charge members of the R. O. T. C. from such corps and from the necessity of completing the course in military training as a prerequisite to graduation.

METHOD AND SCOPE OF INSTRUCTION.

In all courses the following idea is education in practical science. With this idea in view, instruction is given in English, history, economics, mathematics, physics, chemistry, and in other studies which lie at the foundation of a sound education and furnish the best preparation for the more technical studies of the several courses. Instruction is given by the use of text-books, by lectures and recitations; also by practice in the shop, field, laboratory, and drawing room. These practical exercises have a high educational value, and serve a useful purpose in fixing and rendering clear the ideas presented in the class room; they have also a practical value; for they are, in great measure, examples of just such problems as the graduate will encounter in the pursuit of his calling. For convenience of instruction, the classes are subdivided into sections of suitable size. Unannounced written exercises and tests are given at the discretion of instructors. Written examinations are held at the end of each term.

REHABILITATION OF DISABLED SOLDIERS.

Special elementary courses in various phases of agriculture, poultry husbandry, bee keeping, highway work and cotton classing have been organized for disabled soldiers being trained under the supervision of the Federal Board for Vocational Education.

These courses are, in general, similar to courses provided for other students but are modified to provide a definite objective for the men in training.

NON-RESIDENT LECTURERS.

At intervals throughout the session, men who have attained prominence in some branch of agriculture or engineering or in other lines are invited to address the students with the view of enabling them to see more closely the relation between their college instruction and the work they will be called upon to do after they enter upon their professional careers.

TRIPS OF INSPECTION.

At suitable times during the session trips of inspection, under the direction of some member of the teaching staff, are made to points of special interest. These trips have a high instructional value, and students of the upper classes are encouraged, though not required, to take them.

ELECTIVE STUDIES.

Elective studies are to be chosen by the student under the advice and direction of a member of the Faculty designated for the purpose, and subject to schedule. The choice of electives for any year must be made by April 15 of the preceding year. In case of failure to comply

with this requirement, the student will be subject to an assessment of one dollar, and his adviser will be authorized to assign subjects for his electives. The Faculty may withdraw any elective course unless it is elected by at least five students.

ABSENCES.

When a student is absent from recitation a considerable number of times, his absences are taken into account in making up his term grade, unless the work missed is satisfactorily made up before the time set for the examination.

PETITIONS FOR CHANGES IN STUDIES.

Petitions for substitutions, for change of course, or for other changes affecting the student's list of studies, must be submitted at least one week before the first day of the term. For making changes asked for at a later date there will be a charge of one dollar.

REPORTS.

In order to keep parents systematically informed concerning the progress of their sons, reports, showing class standing and record of conduct, are sent out from the Dean's office at the end of each term. A preliminary report is sent out soon after December 1.

HEALTH.

The buildings of the College are situated on the crest of a wide divide, with sufficient slope in every direction to insure proper drainage. The health of the student body, as shown by the daily records of the institution, is all that could be expected at any location in the State.

The work of sanitation is carried on throughout the entire year, with especial reference to the eradication of mosquitoes, flies, and other disease-bearing agencies.

Drinking water is supplied by wells varying in depth from 300 feet to 1300 feet.

The barracks are inspected daily, and are kept neat and clean throughout. The rooms are well lighted and comfortable.

Drill, shop and field practice, work and outdoor athletic sports furnish sufficient and varied exercise and contribute very much to the maintenance of health and proper physical development.

There is no endemic disease at the College; most of the sickness is the result of indiscretion on the part of the student or is due to the introduction of some mild epidemic disease, such as measles or mumps.

ATHLETICS.

The usual forms of athletic sports are encouraged. The College is a member of the Southwest Athletic Conference. The general rules of eligibility of this organization have been adopted by the Faculty. The Faculty Committee on Athletics is entrusted with the general oversight of athletics.

BAND.

An attractive feature is a regularly organized cadet band of about sixty-five pieces. Under the direction of a leader employed by the College, it furnishes music for occasions of social and military importance, gives open-air concerts in season, leads the regiment in marching to dinner, and plays at dress parade. Advanced musicians receive a nominal remuneration for their service. Prospective students who play any band instrument should communicate with Mr. George Fairleigh, Leader, with reference to membership in this organization.

RELIGIOUS AND MORAL CULTURE.

There is religious service in the chapel every Sunday for the corps of cadets and the residents of the campus. A Sunday school for Bible study, attendance at which is voluntary, affords additional help in the way of ethical training. Every effort is made through lecture and personal example to develop and protect good morals in the young men attending the institution.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

The Young Men's Christian Association occupies a handsome building in which ample provision is made for the meetings of the Association, for Bible study, for social gatherings, and for games. In the basement there is a well appointed swimming pool.

THE LIBRARY.

The Library contains approximately 20,000 volumes, including between 2000 and 2500 bound public documents, and exclusive of the files of the Federal and State Agricultural bulletins. While the Library has hitherto been modeled chiefly along reference lines, a very good reading Library has now been accumulated, and the careful selection of new books keeps the collection abreast of contemporary thought. With the exception of books of general reference, current periodicals, and books temporarily reserved by certain departments for required reading, all books are loaned for home use for a period of two weeks, with the privilege of renewal for the same length of time.

The Library receives one hundred and seventy-five standard magazines, reviews and technical journals, besides the leading newspapers of the State, and some journals of national importance. Files are kept of some of the most important of these periodicals.

The Library is a United States designated depository and receives copies of all Federal publications. A card index is maintained of all publications of the United States Department of Agriculture and of the State Experiment Stations.

The Library is open on week days and holidays from 8 a. m. to 12 m., from 1 p. m. to 5 p. m., and from 7 p. m. to 10 p. m. The Sunday hours are from 2 to 5 p. m.

PUBLICATIONS.

The following publications are issued by the College:

The Bulletin of the Agricultural and Mechanical College of Texas.—This is a monthly publication which includes the bulletins of the Texas Engineering Experiment Station, the Catalogue of the College, and the announcement of the Summer Session.

The Daily Bulletin.—This is a small sheet issued daily during the regular session, which carries official notices and other announcements.

Bulletins of the Agricultural Experiment Station.—These bulletins are issued from time to time and contain reports of the results of the investigations of the Station.

The Texas Aggie.—The object of this publication is to keep the alumni informed as to the progress and activities of the College.

Extension Service Bulletins.—The Extension Service publishes from time to time bulletins on subjects of popular interest in the fields of agriculture and home economics.

In addition, there are issued twice a month an *Extension Service News Letter* of seasonal advice, and numerous circulars from time to time covering both matters of general agricultural interest and matters of unexpected development.

Student Publications.—The students of the College publish *The Battalion*, a weekly, devoted to student activities and interests. The Senior class publishes an annual, *The Longhorn*.

The Young Men's Christian Association publishes at the opening of the session a *Handbook* giving information of value particularly to new students.

EXPULSIONS.

At a joint session of the Board of Regents of the University of Texas and the Board of Directors of the Agricultural and Mechanical College, held at College Station, Texas, from June 30 to July 1, 1896, the following order was made:

"It is ordered that hereafter, when any student shall be dismissed or expelled from either of the branches of the University of Texas on account of any immoral or other conduct which shall render him an unfit character to be matriculated in any of such branches, it shall thereupon be the duty of the branch so expelling or dismissing such student to immediately notify the other branches of their action, whereupon such other branches shall refuse to receive such student for matriculation, or even for examination, should he apply therefor, until the branch which has so expelled or dismissed him has rescinded or reconsidered its former action, and recommended such student for admission into such other branch at which he may apply."

GRADUATION.

A diploma of the College, with the degree corresponding to the course of study pursued, will be granted students who satisfactorily complete the requirements for graduation in one of the regular courses.

For students entering during the session 1922-23 and thereafter, the grade point system will be in effect. Under this system one of the requirements for graduation is that the student must earn each year

a specified minimum number of grade points. To do this it will be necessary for him to get a grade above C in approximately one-half of his studies.

No degree will be conferred without a residence of at least one year at the College. The diploma fee is \$7.50.

The fee for certificates in two-year courses is \$1.00.

HONORS.

At the end of each session students who have during the year received no term grade below B are announced as "Distinguished."

CADET EXCHANGE—BOOKS AND OTHER SUPPLIES.

The College runs an exchange store for the purpose of supplying necessary articles to students at the lowest possible cost. The store carries in stock, text-books, stationery, drawing instruments, regulation articles of the uniform, toilet articles, etc. These goods are sold at prices just sufficient to cover cost and operating expenses.

STUDENT LABOR.

The Legislature provides a fund by which a limited number of industrious young men may defray a part of their expenses by working for the College at such times as their regular duties will permit.

The rate of pay is made to depend upon the character of the work, and the manner in which it is performed. A student should not count upon earning more than \$40 a session.

CHANGES IN ANNOUNCEMENTS.

The announcements made in this Catalogue are based upon present conditions, and are subject to change without notice.

BUILDINGS.

The physical plant of the College includes nine dormitories, an academic building, a Y. M. C. A. building, a mess hall, an assembly hall, a physics building, an agricultural and horticultural building, an animal husbandry building, a chemical building, a veterinary building, a civil engineering building, an electrical engineering building, two experiment station buildings, two mechanical engineering buildings, a textile engineering building, a hospital, a veterinary hospital, a serum laboratory, a farm implement building, a dairy barn, a power plant, a laundry, a sewerage system, barns and outhouses, and residences for instructors and officers, with a total valuation of approximately \$3,000,000.

ACADEMIC BUILDING.

The Academic Building, completed in 1914, is located on the highest part of the Campus and occupies the site of the original Main Building, which was erected in 1876, and destroyed by fire May 27, 1912. It is 89 feet wide and 260 feet long and four stories high. It provides class and lecture rooms for the departments of architecture, drawing, economics, English, history, and mathematics, and quarters for the administrative offices, and the library; certain other departments have been assigned temporary quarters in this building. The building is constructed of brick and reinforced concrete, and is fireproof.

BERNARD SBISA HALL.

This is a one-story, fireproof building, erected in 1912, to replace the Mess Hall destroyed by fire in October, 1911. It is named in honor of Bernard Sbisa, Supervisor of Subsistence. The seating capacity is 2000 and the appointments of the building are modern in every respect.

Y. M. C. A. BUILDING.

The Y. M. C. A. Building occupies one of the best locations on the Campus. The building proper is "T" shaped in plan, 89 feet across the front and 111 feet from front to rear. It is three stories high, exclusive of basement, with front portion surrounded by a wide terrace that forms a portion of the basement story. A barber shop, bowling alleys, locker rooms, shower baths, and swimming pool occupy the basement space; the lobby, auditorium and secretary's office the first floor; two large social rooms and toilets the second floor; and a large conference room, dining room, pantry, and nine sleeping rooms with baths, the third floor.

GUION HALL.

This building was erected in 1918 and is named in honor of Judge John I. Guion, a former President of the Board of Directors. It is a modern college auditorium, seating nine hundred and sixty on the main floor and nine hundred and forty in the balcony. The building is the terminating feature of the south end of Military Walk balancing Bernard Sbisa Hall on the north end. Its classic facade of six large

columns gives a stately effect. The auditorium contains a large stage, seating as many as a hundred people, dressing rooms for men and women, and space for a modern pipe organ.

HOSPITAL.

The Hospital was erected in 1916. It is two stories and basement high, 116 feet long by 82 feet wide where its dimensions are greatest. The construction is fireproof except for the doors and windows of the wards; openings into the stair tower and elevator shaft are guarded by approved metal doors and windows.

The administration department includes a waiting room, two examining rooms, a record room, a locker room, a dispensary, a laboratory, an operating suite (surgeons' and nurses' "scrub-ups," sterilizing and anesthetizing and operating rooms), blanket warmers, and X-ray room, a library, and storerooms. There is an employees' dining room, a complete kitchen with supply rooms and refrigeration, and diet kitchens with dumb waiter service, steam tables and electric ranges for each floor. There are also living quarters for the staff and attendants.

There are nineteen showers, all provided with anti-scalding devices, those for patients being automatically regulated to discharge water of a constant pressure.

POWER PLANT.

This building, completed in 1917, is a modern fireproof structure, carefully designed to house boilers, engines and machinery used to generate heat and light and to manufacture ice for all College purposes. Space is provided for expansion to take care of future growth. The building comprises about twenty-one thousand seven hundred square feet of floor space.

CHEMISTRY BUILDING.

This building, erected in 1902, is 138 feet long and 130 feet deep. It is built of brick and contains two stories and a basement. It contains the offices, class rooms, laboratories, and storerooms of the department of Chemistry and Chemical Engineering.

MILITARY SCIENCE BUILDING.

This building, erected in 1920, is a two-story frame structure with a stucco exterior and a fire resisting roof, 45 feet wide and 71 feet long. It is conveniently arranged to provide offices for the Military Staff and six large class rooms for instruction in Military Science and Tactics.

PHYSICS BUILDING.

The Physics Building, erected in 1919-20, is 61 feet wide by 120 feet long. It is modern and fireproof in all respects.

The building comprises a well lighted basement and two upper stories. In the basement are located the heat, optical and magnetic laboratories; five small laboratories, dark rooms, storage rooms, and toilets. On the first floor the general laboratory; electrical laboratory;

four offices; shop, apparatus rooms and toilets are located; and on the second floor five recitation rooms; a large lecture hall; a small lecture hall; apparatus room and toilet.

AGRICULTURAL BUILDING.

The Agricultural Building has four stories, the ground floor and three main floors. It measures seventy by one hundred and fifty-two feet. Entrances are provided at the front and at each end, with a service entrance at the rear as well. Two sets of stairways provide means of communication from floor to floor. The structure is of fire-resisting, reinforced concrete construction; the exterior walls are of gray face brick trimmed with Texas limestone. The exterior design is dignified and consistent and clearly expresses the permanency and importance of the building.

The building provides offices for the Dean of the School of Agriculture and the personnel of the various departments. Class rooms and laboratories are conveniently arranged with respect to office locations of the teaching staff. A generous lobby provides a space for congregations and other purposes appropriate to its use. There are toilets on each floor and rest rooms are at the disposal of stenographers and students.

AGRICULTURAL ENGINEERING BUILDING.

This building temporarily houses the department of Agricultural Engineering. It provides offices, class rooms, and laboratories for the study of gas engines, tractors, and farm equipment and machinery.

AGRICULTURAL AND HORTICULTURAL BUILDING.

This building was erected in 1899, to accommodate the agricultural and horticultural departments of the College. It is 160 feet long and 77 feet wide, two stories high, and covered with slate. It contains twenty-seven rooms. It is to be remodeled and adapted to other purposes.

ANIMAL HUSBANDRY BUILDING.

This building, erected in 1917, is a fireproof structure 200 feet long by 100 feet wide, containing a 160-foot by 60-foot display ring, surrounded by reinforced concrete circus seats for 1600 spectators. Additional seats of the same character can be erected in the four corners and will provide 240 more sittings. The roof is of cement tile, supported by steel trusses which are carried on steel columns placed back of the seating sections between them and the wall aisles, thus providing unobstructed view for the entire audience.

The space underneath the seating sections is completely utilized. There are three class rooms with attached offices, waiting rooms, locker and toilet rooms, a washing room, a killing room with refrigeration, quarters for the custodian and ten box stalls for show stock.

DAIRY BARN.

The dairy barn, built in 1916, is a one-story hollow tile building, situated west of the railroad tracks on the principal axis of the campus. It is 200 feet long by 34 feet wide, with a wing in rear 34 feet by 33 feet. The main part is a single room unobstructed by posts, and is used for milking only. There are stalls for 98 cows, which stand in rows back to back. A trolley carrier, suspended from the roof and running the length of the building is used for handling the milk, which is taken through a screened passageway to a separate building of the same type of construction at the south end, where it is cooled, separated and prepared for use, and where all utensils are sterilized after each milking.

The floor of the milking room is of concrete and is washed out with a hose twice daily. All doors and windows and the openings into the ventilator running the length of the roof are screened. Conditions are ideal for the production of certified milk.

The wing in the rear contains offices, showers, supply and feed rooms.

CIVIL ENGINEERING BUILDING.

This building, erected in 1909, contains eight lecture rooms, five laboratories, five drawing rooms and several offices and storerooms.

The building is 125 feet wide and 73 feet deep; it has a basement and three stories, is heated by steam and is fireproof.

ELECTRICAL ENGINEERING BUILDING.

This building, erected in 1912, contains thirteen lecture rooms, four laboratories, two drawing rooms, and several offices and storerooms.

It has a basement and three stories; is 125 feet wide by 103 feet deep; is heated by hot water, and is fireproof.

MECHANICAL ENGINEERING BUILDING.

This building, erected in 1919, is 53 feet wide and 94 feet long. It is modern and fireproof in all respects and comprises a basement and three stories.

In the basement are provided two laboratories, preparation, storage and shipping rooms. On the first floor are offices, museums and recitation rooms; on the second, offices, recitation rooms, and a library; on the third, two large drafting rooms, a lecture hall, blue print room and an office. A toilet room is located on each floor.

MECHANICAL ENGINEERING SHOPS BUILDING.

The Mechanical Engineering Shops Building gives to the Agricultural and Mechanical College of Texas one of the most comprehensive shop layouts to be found at any college. The various shop units (carpentry, pattern making, machine, forge and foundry) are so arranged under one roof that intercommunication and coordination are easily secured.

In addition to the large shops demonstration rooms, tool rooms, class rooms, and offices are provided. The ground at the site slopes to the front, which condition was taken advantage of by arranging locker,

wash, toilet and storage rooms in the basement. These rooms are well lighted and are easily reached by stairways and a material lift; outside entrances are also provided to the basement. An enormous area of steel sash, properly ventilated, gives an abundance of light and air to the shop units in all parts of the building. The structure is of reinforced concrete and steel and modern in every respect. It covers an area of forty-five thousand square feet.

TEXTILE BUILDING.

This building, erected in 1904, is constructed of smooth red brick, according to the plans of an expert mill engineer, and is an excellent example of modern cotton mill construction. The construction is of the slow-burning type generally accepted by American engineers as the most satisfactory for cotton manufacturing.

The building is two stories high, 50 feet wide and 180 feet long. The first floor is occupied by the carding and spinning and warp-preparation machinery, and the professor's office. The second floor is occupied by the weaving and cloth-finishing machinery and by the designing and class rooms, and the offices of the instructors in weaving.

The building is heated throughout by a Webster vacuum system of steam heat, and a complete sprinkling system for fire protection has been installed. The plumbing in the building is perfectly sanitary and typical of the best cotton mill practice.

VETERINARY HOSPITAL.

The Veterinary Hospital, erected in 1908, contains a clinic room, 36x36 feet, eight box stalls, four tie stalls, two rooms for dogs, a large colic stall, feed room, medicine room, janitor's room, etc. The building is floored with concrete, with traps from each stall to the sewer, thus permitting the proper isolation of contagious diseases and the thorough disinfection of each stall. An automatic flush tank serves to keep the building in a sanitary condition.

FRANCIS HALL.

This building was completed in 1918 to provide laboratories and class rooms for the School of Veterinary Medicine. It is of fireproof construction, 140 feet long and contains three stories and a basement. The first floor contains an office, a library, an amphitheater, an animal room, an apparatus room, a laboratory for anatomy, histology and embryology, and a laboratory for the Department of Medicine and Surgery. The second floor contains an office, a class room, a storeroom, a laboratory for physiology, and one for pharmacology. The third floor is devoted to pathological work. There are two offices, apparatus room, post-mortem room, preparation room and two laboratories, one of which is devoted to pathology and bacteriology for college work; the other to pathological problems involved in Experiment Station work.

Each floor is served by a small elevator, and has the usual toilet facilities. On each floor there are constant temperature rooms. One of these is the "hot" room, which is intended to maintain a reasonably constant temperature from 90 degrees to 110 degrees F. The other

is the "cold" room, which is equipped with brine coils to provide a temperature from 30 degrees to 50 degrees F. The basement is used entirely for storage and the service pipes and apparatus.

The entire building is supplied with hot and cold hydrant water, rain water, steam heat, high pressure steam for the autoclaves, gas, electricity, compressed air and vacuum. The laboratory furniture is of special design.

SERUM LABORATORY.

The serum laboratory, built in 1917, is a one-story fireproof building, 100 feet long with an average width of 32 feet. It is arranged for the manufacture of hog cholera serum. It contains observation pens, preparation rooms, killing, hyper-immunizing and bleeding rooms, defibernating rooms, laboratories, storage and packing rooms, offices and toilets.

RESEARCH CHEMISTRY BUILDING.

This building, erected in 1909, is 115 feet wide and 61 feet deep; it has a basement and two stories, is heated by steam, and is fireproof.

It is occupied by the divisions of Chemistry, Entomology, Plant Pathology and Physiology of the Experiment Station.

RESEARCH ADMINISTRATION BUILDING.

This building, erected in 1918, is occupied by the Administration and Research Divisions of the Experiment Station. It is modern and fireproof, and is one of the most complete research laboratories devoted to Experiment Station work in the country. Offices are conveniently arranged for the Director and his staff, with a conference room adjoining. Other well arranged offices are provided for the heads of the various divisions and their assistants. A large room is given to the needs of a library. The various laboratories are equipped with electricity, gas, air, steam, and water for experimental purposes; and in connection with each is a large fireproof vault for storage of valuable data. Non-vibrating balance tables are provided in the laboratories. The basement provides ample space for the storage of supplies and materials. Above the basement there are three stories; a freight elevator runs from basement to top floor.

GATHRIGHT HALL.

This building was erected in 1876, and is named in honor of Thomas L. Gathright, the first President of the College. It is used temporarily for offices for the Extension Service, and for other purposes.

Dormitories.

All the dormitories are screened.

PFEUFFER HALL.

This is a dormitory, erected in 1887, and contains twenty-five rooms. It is named in honor of George Pfeuffer, a former President of the Board of Directors.

AUSTIN HALL.

This is a dormitory, erected in 1888, and contains twenty-five rooms. It is named in honor of Stephen F. Austin.

ROSS HALL.

This is a dormitory, erected in 1892, three stories high, with forty-one rooms, with running water in each. It is named in honor of former President L. S. Ross.

FOSTER HALL.

This building was erected in 1899, and is named in honor of former President L. L. Foster. It is a dormitory and consists of three separate parts; the central part is four stories high and contains nineteen rooms; the two ends are three stories high and contain eighteen rooms each. There is running water in each room.

GOODWIN HALL.

This dormitory was erected in 1908 and is named in honor of Hon. G. I. Goodwin. It contains eighty-two rooms and is equipped with a steam heating system and modern toilet facilities. There is running water in each room except those on the first floor.

MILNER HALL.

This building was erected in 1911 and is named in honor of former President R. T. Milner. It is a dormitory containing one hundred and two rooms. The building is four stories high; there are no connecting stairways between the several floors, but each story has separate entrances so as to divide the building into four distinct parts, without interfering with the ventilation in any part of the building. Each story has four shower baths and ample toilet facilities. Every room is provided with water, electric light, and hot water heat.

The building is constructed of reinforced concrete and brick, and is practically fireproof.

LEGETT HALL.

This building was erected in 1911, and is named in honor of K. K. Legett, a former President of the Board of Directors. It is in every respect a duplicate of Milner Hall.

HARVEY MITCHELL HALL.

This building was erected in 1912, and is named in honor of a former citizen of Bryan, who was largely instrumental in having the College located in Brazos county.

It is a dormitory, having a basement and three stories, and contains eighty-six rooms, each one having an outside exposure. Each story has shower baths and ample toilet facilities. Every room is provided with water, electric light, and hot water heat.

The building is constructed of reinforced concrete and brick, and is practically fireproof.

BIZZELL HALL.

This is a modern, three-story dormitory, erected in 1918, and is named in honor of President W. B. Bizzell. It is built in two sections: the lower floors being connected by a covered passageway. It contains sixty-six rooms, and ample toilet and bathing facilities on each floor of both sections; every room is provided with running water, electric light and steam heat.

The building is of concrete and brick, and is practically fireproof.

ALPHA HALL.

This building, a frame structure, is used as a dormitory providing nineteen rooms with baths and toilets on each floor.

BETA HALL.

This building, a frame structure, is used as a dormitory providing twenty-four rooms with baths and toilets on each floor.

SEWERAGE SYSTEM.

The College is provided with a system of sewers, to which are connected the buildings of the campus. The outfall of the system is three-fourths of a mile from the nearest College building and nine-tenths of a mile from the nearest recitation hall or dormitory.

GROUNDS AND GARDEN.

The garden, orchard, barnyards and campus are included in the enclosure to the east of the railroad stations. The campus consists of some twenty-five acres of lawn, shrubbery and flowers.

The orchard, vineyard, nursery and garden are located north and east of the Academic Building.

FARM.

The farm proper comprises about three hundred and fifty acres, and has the necessary barns, silos, and outhouses. The pastures contain about one thousand acres, and furnish grazing for the College herds.

EQUIPMENT.

AGRICULTURAL ENGINEERING.

The Agricultural Engineering Department has special laboratories for each of the following subjects: Farm machinery, farm motors, automobiles and tractors, and concrete construction. In addition to this there is a drawing room for the use of classes in farm buildings, irrigation and drainage. A hundred-acre farm is provided for practical work in the various subjects.

The farm machinery and tractor laboratories are housed in a building 160x100 feet, which is entirely taken up with up-to-date farm machinery and tractors, such as should be used on Texas farms. The machinery consists of different makes of plows, harrows, planters, cultivators, harvesters, seed cleaners and grinders.

The farm motor laboratory contains twenty-five farm gas engines, together with all apparatus necessary for testing same, and a supply of extra magnetos and carburetors.

The automobile and tractor laboratory contains thirty-four, six, eight, and twelve-cylinder motors, six automobiles, two trucks, a number of chassis, soldering and babbiting room, acetylene welding outfit, special ignition apparatus, storage battery charging and repair outfit, and a number of surplus magnetos and carburetors.

The concrete construction laboratory is equipped with cement and aggregate testing apparatus, together with molds and forms for making such simple concrete structures as are found on the farm.

Equipment for special field work in terracing, drainage and irrigation has been provided.

AGRONOMY.

The Agronomy Department has four well equipped laboratories. Two of these are used for instructional purposes in soils, one for instructional purposes in farm crops, and one for instructional purposes in genetics and plant breeding.

The main soils laboratory is equipped with a centrifuge, shaking machine, Briggs filter, electric air pump, torsion balances, chemical balances, drying ovens, hot plates, compound microscopes, evaporimeters, soil capillary tubes, soil samplers and all of the smaller equipment and chemicals for a modern soils laboratory.

The soil fertility laboratory is equipped for specialized instruction in soils for the benefit of senior students who desire to specialize in this subject, and for graduate instruction in soils.

For soil survey instruction, the department has five plane tables equipped with alidades; also other miscellaneous equipment for this work.

The farm crops laboratory is equipped for general laboratory instruction in farm crops and also for specialized instruction in commercial grain grading. For the general laboratory study of farm crops the chief items of equipment are standard seed testers, dissecting sets, hand lenses, torsion balances, insect-proof and rat-proof grain

bins. Also type samples and specimens of all the important field and forage crops are kept in stock for study. For the work in grain grading the chief items of equipment are two Brown-Duvel moisture testers, a "wild-oat kicker," several complete sets of dockage sieves for determining dockage in the various kinds, classes and grades of grain for practice work in determining the grades.

The genetics and plant breeding laboratory contains all of the modern equipment necessary for laboratory instruction in these subjects.

The department has a modern greenhouse, 67x25 feet, equipped for soil fertility, farm crops and plant-breeding work. For field study the department has 35 acres of land devoted to demonstration and experimental work in crops and soils. All of the important types and varieties of farm crops adapted to this section are grown for field study.

The department maintains a rather complete technical library, in which will be found practically all of the standard works and journals pertaining to agronomy, as well as the Experiment Station bulletins and reports.

ANIMAL HUSBANDRY.

The Animal Husbandry Department is equipped with the following breeds of live stock: Standard Bred, Thoroughbred, Morgan, and Percheron breeds of horses; Shorthorn, Hereford, and Aberdeen-Angus breeds of cattle; Shropshire, Hampshire, Southdown, and Rambouillet breeds of sheep; and Duroc-Jersey, Poland-China, Berkshire, and Tamworth breeds of hogs. These breeds are represented by registered breeding animals in the cases of horses, and by both registered breeding animals and market animals—steers, wethers, and barrows—in the case of cattle, sheep, and hogs, respectively.

On the Animal Husbandry farm there are four barns, viz., a horse barn, a beef cattle barn, a sheep barn, and a hog barn. The land on which the hogs and sheep are kept is divided into small fields and pastures, thus permitting forage crops and pasturage rotation for these animals.

ARCHITECTURE.

The department has a number of signed drawings and color renderings, an ample library of valuable books, several thousand plates in ring books, a lantern and slides, and a number of well chosen casts—to all of which additions are being made constantly. Students of architecture have, of course, access to the equipment of other departments in which they are taking work.

BIOLOGY.

The department in its various branches is thoroughly equipped with apparatus for lecture room and for laboratory use. There are six laboratories—one zoological, three botanical, one bacteriological and one research. All are amply provided with tables and other general apparatus.

For the use of elementary classes, the department is provided with 45 standard two-power microscopes, with their usual accessories; charts

and models of plants and animals; a fairly good collection of prepared specimens, and a herbarium of about 3000 mounted plants. A small greenhouse has lately been acquired. For experimental work and demonstration in the class room, there is an excellent equipment of instruments of precision, largely of French and German make. For the use of more advanced workers there are 20 high-power microscopes of the best makes; 3 Leitz binocular dissecting microscopes; Reickert and Minot microtomes; imbedding ovens; a large and a small incubator; two steam sterilizers; analytical balances; and a full equipment of glassware, chemicals, stains and similar materials.

The library contains about 300 books of reference and several thousand separates, bulletins and special papers. The leading journals of botany, zoology, bacteriology, and mycology are also available to the student.

CHEMISTRY AND CHEMICAL ENGINEERING.

The department has the usual laboratory facilities, including a vacuum system for rapid filtration, a compressed-air system for use with blast lamps, and a ventilating system. The laboratories are supplied with hydrant, cistern and distilled water. Each student is assigned to a lock-desk containing the necessary equipment. The large lecture room, with raised seats, has a seating capacity of one hundred and thirty. The museum occupies a large, well lighted room.

There is a separate room for technical analysis and one for advanced industrial chemistry. The latter is not yet fully equipped. The former is provided with vacuum and compressed-air systems, colorimeters, calorimeters, refractometers, Levibond tintometer, combustion furnaces, gas burettes, and other special apparatus used in technical analysis. The laboratory has the usual equipment for work in physical chemistry.

The department has a good reference library.

CIVIL ENGINEERING.

The equipment in this department is excellent and sufficient in quantity to meet the needs of the classes at the present time, and additions are being made to it each year.

For the field work, the equipment consists of a well-assorted lot of transits and engineers' levels for general work; also for more precise work in city surveying and leveling and for simple triangulation. Also surveyors' compasses, plane tables, aneroid barometers, range poles, rods, chains, tapes, etc. For the drafting room and other office work there are drawing tables, two universal drafting machines, planimeters, slide rules, calculating instruments, protractors and other minor equipment.

In the general testing laboratory there is one machine of 100,000, one of 50,000 and one of 20,000 pounds capacity, a 50,000 inch-pounds torsion machine, and a rattler for testing paving brick. With the exception of the 20,000-pound machine these are all power-driven.

The hydraulic laboratory contains weirs, pressure gauges, hook gauges, water meters, measuring tanks, impulse wheels, hydraulic ram, centrifugal pumps, pitot tubes, current meters, nozzles, and other apparatus

for hydraulic measurements. The centrifugal pumps are connected to a pressure tank in order that they may be forced to pump against various heads.

In the cement laboratory are moulds for shaping test specimens, cement testing machines, sieves for testing the fineness of cement and sand, Vicat and Gillmore's needles for testing time of setting, damp closet, balances, and other appliances used in testing the qualities of cements.

The road materials testing laboratory is completely equipped with the most modern machines for testing non-bituminous road materials. This equipment includes a diamond core drill, diamond saw, grinding lap, Dorry hardness machine, Page impact machine for toughness test, Deval abrasion machine, ball mill, cementing-value briquette-forming machine, cementing-value impact testing machine, stone and sand sieves, sieve agitator, balances and other miscellaneous equipment.

There is also an exceptionally well equipped laboratory for the study of bituminous pavements and paving materials, which laboratory affords a means of instruction in the present-day methods of constructing bituminous roads and in the study of materials used for this purpose. It also offers opportunities for co-operative work with the cities and towns of Texas in the investigation of their pavements and available paving materials.

A road exhibit room is also maintained for the benefit of students and visitors. In this room are shown models of road sections and surfaces made of various materials available in Texas. Samples of gravel, rock, asphalt, and road soils, together with photographs, charts and maps of road work in the State complete the exhibit.

The department library and reading room contain engineering books, periodicals, blue prints, photographs, etc., and are kept open for the use of students during the session.

DAIRY HUSBANDRY.

The department controls a complete dairy farm of 593 acres of land, the operations of which are devoted to the growing of feed crops, and the preparation and maintenance of permanent pastures for the dairy herd. Two hundred and twenty-five acres are under cultivation, the remainder being devoted to pasturage.

All modern machinery is used by this department, including breaking plows, cultivators and harvesting machinery.

The herd consists of 161 animals, including cows, calves and bulls, of which there are 84 pure-bred Jerseys, 53 pure-bred Holsteins, 9 pure-bred Ayrshires, 5 pure-bred Guernseys, 3 pure-bred Dutch Belted, and 1 pure-bred Red Poll. The milking herd usually includes about 80 cows, which are housed in a modern dairy barn constructed of tile and concrete, and furnished completely with modern barn equipment.

The creamery and laboratory occupy the entire south end of the ground floor of the agricultural and horticultural building. The creamery is operated on a commercial basis, and all equipment and machinery necessary for the manufacture of butter and ice cream is available, including a modern six-ton York refrigeration unit.

The laboratory includes such equipment as glassware, Babcock testers, centrifuges, separators and other necessary equipment for the proper testing of milk and its products.

DRAWING.

This department is located on the fourth floor of the Academic Building. It occupies four large drawing rooms, two recitation rooms, offices, etc., all of which are especially well ventilated, heated and lighted.

The department is fully equipped with necessary furniture, models, plaster casts, life-size statues, etc.

For illustrative purposes there is in use in the department all modern apparatus for the draftsman, such as electric blue printing machine, universal drafting machine, pantograph, ellipsograph, etc.

A reference library of the best works on drafting, illustrating, etc., is kept in the department for the convenience and use of students.

ELECTRICAL ENGINEERING.

The electrical engineering laboratories comprise three electrical machinery laboratories, two measurements laboratories, a standardizing laboratory, a photometric laboratory, a storage battery room, a storage battery repair room, a communication laboratory for telephone, telegraph and radio work, a work shop, two rooms for building and repairing electrical machinery, and an instrument room.

The electrical laboratories are supplied with 2300 volt, three-phase, 60-cycle power from the College power station. Alternating current at 110 and 220 volts is obtained through transformers. Direct current is supplied by two motor-generator sets located in the machinery laboratory. The smaller set consists of a 2300-volt, 50-horse power induction motor direct connected to a 35 kw., 125-volt, compound wound direct current generator. The larger set consists of a 2300-volt, 100-horse power synchronous motor direct connected to two 35 kw., 250-volt, Dobrowolsky, three-wire direct current generators, so arranged that they may be operated independently or connected in series for obtaining 500 volts. A 3-panel switchboard controls the above equipment and the feeders to the 6-panel switchboard used for the distribution of power within the machinery laboratories and to the switchboards located in the other laboratories. Throughout all laboratories the distribution of power is controlled by a plug-and-socket system, thus securing absolute flexibility.

The storage battery room contains a 110-cell Edison storage battery, with a mercury arc rectifier for charging. The batteries are connected through suitable control to the main distributing board.

The equipment of the machinery laboratories is as follows: Two street car motors mounted on a single shaft with prony brake attachment, and equipped with both a hand controller and a master controller operating an electro-pneumatic system; one 250-volt and one 500-volt direct current motor; one 5-horse power, 110-volt, direct current series motor with interpoles; one 1½-horse power shunt generator; three 6 kw. compound wound machines; three 4 kw. compound wound machines; one 5 kw. direct current machine with four slip rings; four

5 kw. compound wound direct current generators with interpoles; four $7\frac{1}{2}$ -horse power compound wound motors with interpoles; one $7\frac{1}{2}$ -horse power Reliance variable speed motor; one 20-horse power and one $12\frac{1}{2}$ -horse power direct current motor; one $12\frac{1}{2}$ kw., three-wire generator; one compensator variable-speed direct current motor; two 30 K. V. A. and two $7\frac{1}{2}$ K. V. A. alternators; two 10 K. V. A. three-phase alternators with six slip rings; one 20 K. V. A. six-ring converter; one 8 K. V. A. converter; one 8 K. V. A. split-pole converter; one 10 K. V. A. three-phase generator driven by a set of two 10-horse power, three-phase induction motors, arranged for cascade operation; four motor generator sets, consisting of a direct current motor and a 3 K. V. A. alternator with six rings for single-phase, two or three-phase; a number of single-phase and polyphase induction motors. There are a number of constant voltage transformers, a constant current transformer, and several types of automatic motor starters.

The high tension laboratory contains a 100 K. V. A. 200,000-volt transformer, with regulators for varying the voltage, a 125 cm. spark gap, a crest voltmeter with a number of auxiliary devices.

The electrical measurements laboratory has a full equipment of the apparatus needed for the study of the fundamentals of electrical measurements. The equipment includes the following: Various types of Wheatstone bridges; a Kelvin double bridge; a Cary-Foster bridge; magnetometers, dynamometers; portable, semi-portable and wall galvanometers; astatic galvanometers; universal tangent galvanometer; calorimeters; sechometer; influence machine; electro-static apparatus; spark coils; apparatus for testing magnetic qualities of iron and steel; standard resistances; standard cells, physical balances; universal shunts; resistance boxes; variable inductances and capacities; portable storage batteries, and various minor equipment.

The standardizing room is equipped with a Leeds and Northup potentiometer and its accessories; Weston standard laboratory voltmeter, and milli-voltmeter with shunts; a Kelvin balance; Westinghouse precision ammeter, voltmeter, and wattmeter; and standard resistances and standard cells. In this room there are also a three-vibrator oscillograph with photographic attachment, and a motor generator set consisting of direct current motor direct connected to a set of four alternators giving a fundamental wave, and the third, fifth and seventh harmonies, so arranged that any desired phase relation may be obtained between each of the harmonies and the fundamental.

The photometric laboratory has two dark rooms for photometric work proper. The equipment includes a station photometer; two illumination photometers; a Sharp-Miller photometer; a Flicker photometer; an integrating photometer consisting of an Ulbricht sphere two meters in diameter, with accessories, especially adapted for arc light photometry; rotating apparatus; a number of incandescent lamp candle power standards; and a collection of various arc lamps, and a number of units representing various indirect and semi-direct lighting systems. There is also a room for the demonstration and comparison of various light sources and systems.

The communication laboratory is equipped with central energy and magneto telephone switchboards, an automatic switchboard, and numerous types of telephones and parts; simple and duplex telegraph

sets; radio telegraph and telephone instruments of various kinds; wave meters and decimeters, coils, condensers, tubes, etc., for building radio circuits. The department also maintains a complete radio station capable of communicating distances of 500 to 600 miles by radio telephone and distances of 1500 miles by radio telegraph. This equipment is available for study from both engineering and an operating standpoint.

Through the generosity of the Otis Elevator Company, a complete motor-driven elevator winding-engine equipment of the most modern type, complete with all automatic switches, regulators, controllers, etc., has been donated and installed in the laboratory for test and demonstration purposes.

The department also has a number of frames of dynamos and motors and cores of transformers that are used by the students in learning to wind and repair these machines.

The equipment for the students in electrical engineering is augmented by the fact that the direct connected generators in the powerhouse, their exciters and measuring instruments, and the motors used to operate the Textile School, machine shop, and other laboratories are available for tests as practical operating plants after the students have performed the required experiments on the machines located in the laboratory.

Students are urged to read the literature pertaining to their work, and for this purpose the department library is available. A reading table is maintained, on which are kept the current copies of a number of technical magazines. The technical books in the general library are also available to the students.

ENTOMOLOGY.

The department of entomology maintains two laboratories, one of which is equipped with dissecting and compound microscopes, and the other with compound microscopes. In addition, the department maintains an insecticide laboratory equipped with the more important insecticides and spray machines, powder guns, etc.

The department has several insect models illustrating the anatomy of the more common insects, together with a series of charts illustrating the life histories of insects. This equipment is supplemented by a balopticon and several hundred lantern slides illustrating the anatomy and life history of the most important insects.

The equipment in apiculture consists of a bee house and workshop containing honey extractors, wax presses, wiring devices and different makes of bee hives. In addition to this, the department has a small apiary, where the student can familiarize himself with the practical operations of beekeeping.

For life history work, the department has an insectory equipped with breeding cages, a hydrothermograph, and all necessary equipment for working out the life histories of insects.

A library is maintained, which comprises two hundred and eighty volumes of technical books on entomology. This library contains full sets of the Transactions of the American Entomological Society, Gen-

era Insectorum, Journal of the New York Entomological Society, Entomological News, The Canadian Entomologist, and Psyche.

In addition, a reading table is maintained, on which are kept the recent publications on economic entomology and apiculture.

FARM MANAGEMENT.

The department possesses detailed financial records of the business of many farms located in various parts of Texas and other States.

Files of the Crop Reporter, Market Reporter, Bureau of Labor Price Reports, U. S. Census, and many reports of farm management investigations, are contained in the department library.

Adding and calculating machines and slide rules are available for students working on special problems.

GEOLOGY.

The department of geology has been presented with a very valuable collection of minerals and rocks by Mr. F. W. Steber of Dallas, which will form a nucleus around which a representative geological museum of Texas rocks and mineral products will be built. This collection consists of many of the rarer rock-forming minerals, as well as a representative collection of the more important ores, especially Texas ores. The rock specimens include a great variety of igneous and metamorphic rocks, thin sections for microscopic examination, and a number of typical sedimentary rocks.

Recently the department has come into possession of a number of very valuable equipment donations, with special reference to the further development of the mineral resources of the State. Among these donations occur the following: three types of bits used in well drilling; two types of underreamers; two types of strainers; steel-bolted oil tank with gas pressure gauge; water plug and wash-down tube; various types of wrenches; gas valves, etc. These several gifts represent a monetary value of approximately \$2500. Other promised donations, approximately \$1500 value, include a complete set of fishing tools and another type of underreamer.

A number of individuals and companies have contributed splendid exhibits of well cuttings; well cores; lead, zinc, and iron ores; and specially prepared sulphur exhibits.

There is a fairly representative collection of maps, charts, models, globes, stereographs, and lantern slides with an excellent lantern.

The department library is small as yet; but the volumes that are being added are selected with respect to quality rather than quantity. A large collection of publications has been received from the U. S. Department of Agriculture; the U. S. Geological Survey; the Bureau of Economic Geology and Technology at Austin; and the U. S. Coast and Geodetic Survey.

HORTICULTURE.

The class-room work in horticulture is considerably strengthened by practical exercises in orchards, gardens, and laboratory.

There are now growing on the horticultural grounds orchards con-

taining the standard varieties of peaches, pears, plums, pecans, persimmons, grapes, figs, blackberries and dewberries.

In addition to the commercial gardens, where vegetables are grown for use at the Mess Hall, there is a plat of ground that has been set aside on which a great variety of vegetables are grown under the direct supervision of the student.

There is maintained, in cooperation with the American Rose Society, a rose garden which, when completed, will contain about eight hundred varieties. There is also to be found on the horticultural grounds a rather complete collection of ornamentals.

The department has ample equipment for the control of insects and diseases, including various types of sprayers.

The collection of lantern slides owned by the department, which are used for illustrating different subjects, including those in landscape art, vegetable gardening, and nut culture, is growing rapidly, there being now over twelve hundred.

For work in plant propagation, in forcing early vegetables, in plant breeding, and in floriculture, the students have the use of one of the finest greenhouses to be found in the Southwest. In addition, the department has an excellent greenhouse on the horticultural farm and modern laboratories and cold storage facilities in the new Agricultural Building.

MECHANICAL ENGINEERING.

In the carpenter shop are excellent double work benches of special design, equipped with quick-acting vises, and the saws, planes, chisels, etc., ordinarily found in a carpenter's kit, each student having a set of edge tools assigned to him alone. Supplementing these are a number of special tools in the tool room.

The pattern shop equipment consists of pattern maker's benches, each equipped with vises, drawers, lockers, and outfit of hand tools; and in addition there is an assortment of special tools in the tool room, as well as a large number of small turning lathes, pattern maker's lathes, circular saw, band saw, and jointer.

The foundry is equipped with one dozen bench molding stands, with all necessary shovels, riddles and small tools, a number of floor molding kits, flasks of all kinds, a core machine, a core oven, a squeezer, a Combs gyratory riddle, a brass furnace with all necessary accessories, a No. 1 Whiting cupola with electric-driven blower for blast, and a Clark blast meter for measuring the amount of air supplied. The other accessories for this cupola are also included in the equipment.

The forge room equipment consists of one electric power hammer, emery wheels, forty new forges, all having power blast and exhaust, and a number of hand forges, the necessary anvils, tongs, and other small tools usually found in a forge shop. Besides oil and water baths, the equipment includes a pyroscope for observing the temperature of metals under heat treatment.

In the machine shop the equipment is very satisfactory. It consists of a full line of lathes, grinders, milling machines, automatic machines, many having individual motor drives. The automatic machine is one of the most highly specialized machines for the rapid

production of duplicate parts. The tool room contains a large assortment of taps, dies, drills, reamers, chucks, and other machine accessories, as well as the small tools for laying out work and accurately and properly measuring the same; calipers, micrometers, steel scales, punches, surface plates. Electric portable drills and grinder are also included in the equipment.

The engineering laboratory contains steam engines, gasoline engines, steam turbines, steam and power pumps, fans, water motors, a hot-air engine, condensers, air pump, injectors, and a full line of indicators, gauges, pyrometers, thermometers, tachometers, speed indicators, weirs, pitot tubes, prony brakes, platform scales, etc., for conducting tests as outlined in course 403. A recent addition to the equipment is a testing rack for internal combustion motors.

In addition, the laboratory has the use of all apparatus of the power plant, consisting of simple and compound engines, steam turbines, condensers, pumps of several different kinds; also the boilers of well known makes and different types. The equipment of the steam plant makes available larger engines, condensers, air compressors, air lift pumps, etc., for instruction purposes.

For the class-room instruction there are numerous full-size wooden and metal models of different kinds of engines, also sections of actual air-brake equipment and other appliances and fittings for railway and power plant equipment.

Besides the above mentioned equipment might be mentioned the fact that manufacturers have in some instances deposited or donated for the use of the department a number of standard appliances, which prove valuable to the student.

MILITARY SCIENCE AND TACTICS.

The department has full equipment for Infantry, Field Artillery, Signal Corps, Cavalry, and Air Service, as follows:

Infantry.—The infantry is equipped with every piece of equipment that a regular army regiment of the United States Army has. This includes rifles, pistols, machine guns, automatic rifles, one-pounder guns, trench mortars, hand and rifle grenades, gallery rifles, infantry packs, ammunition for all arms, and field engineering tools. Besides these arms and equipment, the infantry has facilities at hand to use all of its equipment, including an indoor gallery range and a 1000-yard outdoor rifle range.

Field Artillery.—One 3-inch battery complete, consisting of four 3-inch guns, 8 caissons, 10 limbers, 2 battery and store wagons, 2 store limbers, battery reel cart, 90 horses, 4 mules, harness and saddle equipment for all horses, and all accessories, spare parts and tools; also included in the equipment are one 4.7-inch rifle with limber and caisson, one 155 mm. howitzer with limber and caisson, one 155 mm. rifle with limber and caisson, and one each of the American, British and French 75 mm. guns with limbers and caissons; one ordnance repair truck, complete; four motorcycles with side cars; two 5-ton caterpillar tractors; 2 F. W. D. ammunition trucks, one White reconnaissance car. The artillery equipment also includes four Browning machine guns, four

automatic rifles and a complete supply of fire control instruments, such as B. C. telescopes, range finders, aiming circles, trench periscopes, prismatic compasses, sitogoniometers, and an assorted supply of smaller instruments, including drawing instruments, slide rules for field artillery computations, compasses and stop watches.

Cavalry.—Sixty sets of cavalry equipment, consisting of saddle, saddle blanket, bridle, saddle bags, rifle scabbard, lariats, picket pins, sabres, sabre scabbard, feed bags, grain bag, halter, and halter tie rope. Two pack outfits complete, consisting of aparejo, corona, manta, layer sling and lash ropes; sixty cavalry horses; two pack mules; four draft mules; one wagon escort; harness.

Air Service.—One airplane and accessories; one Liberty motor, complete; one Wright motor (Hispano-Suza), complete; one rotary motor, complete; tools for overhauling motors and repair of airplanes; machine guns, aerial, three types; aerial machine gun sights, bombing sights; dummy drop bombs; radio sets, ground and airplane; airplane instruments; airplane propellers, airplane radiators, magnetos, carburetors.

Signal Corps.—Radio telephones; radio telegraph; damped and undamped military telephones; automatic telephones and switchboard; storage batteries and charging plant for automatic telephones; service buzzers; buzzerphones; T. P. S. (telegraphic par sol) ground radio; Kellogg cross section open commercial switchboard; commercial telegraph sets; printing machine; repeaters; horse-drawn wire carts; motorcycles; trucks; tools and equipment for instruction in cable splicing; heliograph, flags, projectors; mechanical tools of all kinds for repairing technical equipment; literature and books for conducting technical courses in signal corps work.

PHYSICS.

The main lecture room of the Physics Building has a seating capacity of 250. It is equipped with amphitheater seats, motor-driven blinds for darkening the room, and with a large lecture table provided with gas, water, and an electrical switchboard. The blinds and lights of the room are controlled from the switchboard.

A smaller lecture room, having a seating capacity of 50, contains a lecture table equipped with water, gas, and a switchboard. Both of these lecture rooms are in direct communication with the preparation room.

The apparatus room of the first floor is equipped with a five-panel switchboard supplied with 110 and 220-volt, alternating current from the College power system, and with 110 and 220-volt, direct current from a 20 kw. motor-generator in the basement. By a plug-and-socket system either alternating or direct current can be distributed by individual lines to any part of the laboratories and to the lecture rooms.

One of the two laboratories of the first floor contains sixteen tables, each supplied with water, sink and gas. It contains also tables for sensitive balances. The other laboratory, designed for electrical measurements, is provided with numerous well distributed outlets for separate electrical lines to the switchboard.

The shop, also on the first floor, is equipped with a motor-driven

planer, rip saw and drill press; stock material and the usual metal and woodworking tools.

The basement consists of one general laboratory, ten smaller laboratories for special work, and equipment room for the motor-generator, a storage battery room, a general storeroom, and a storeroom for chemicals.

In the two larger laboratories are fourteen tables mounted on masonry piers which are free from the floor. These tables may be used either for general practice or for special work. Each table is supplied with gas and a separate electrical line to the switchboard.

Two of the smaller laboratories are black and suitable for photometric work. Another 40x20 feet is suitable for general experiments in light.

RURAL SOCIOLOGY.

The department has an extensive library of State and Federal reports and bulletins, together with clipping files and books giving accounts of various forms of social work. It also has a number of maps and charts illustrating in a graphic manner many questions connected with community organization and development. Apparatus for working out the laboratory problems peculiar to this field are available.

Connections have been established by the department for giving the students practical contact with local and State social problems, especially in the field of community organization.

TEXTILE ENGINEERING.

For yarn manufacture there is ample equipment necessary to produce carded or combed yarns, and with it machines for making chain or slashed warps of either single or double yarns.

In the weaving room there are fourteen Northrop looms, which are entirely automatic, and two plain looms for ordinary plain goods. There are two ordinary dobby looms, with box motion to insert four colors for filling; one dobby loom for weaving terry towels; one dress goods loom, with dobby and boxes for making a seven-colored pattern; one loom for weaving narrow Jacquard dress goods, and one with Jacquard loom for weaving table covers.

The finishing machinery is for ordinary ducks, sheetings or drills, and consists of an inspecting machine, railway sewing and rolling machine.

VETERINARY ANATOMY.

The laboratory of anatomy has a number of mounted and unmounted skeletons of the domestic animals, and about twelve sets of disarticulated skulls. There are a number of preparations of the muscles and ligaments, both dry and wet specimens. There are also preparations of the brain, eye, feet and other organs preserved in formalin and a number of charts and papier-mache models. There are the usual microscopes, microtomes, embedding apparatus, stains, reagents, and apparatus used in histology and embryology, and five sets of sections showing the embryology of the chick and the pig.

VETERINARY MEDICINE AND SURGERY.

The class-room work, practice and clinics are largely conducted at the Veterinary Hospital, which has a large operating room equipped

with operating tables for large and small animals, stocks, casting harness, and instruments for operations and treatment of diseases of live stock. A dispensary which is stocked with necessary drugs and biologics is maintained. Facilities for keeping records of each case are provided; and when complete the records are stored in fireproof vaults for future reference. There are wards for sick dogs and other small animals. Provision is made for isolation of animals with infectious diseases and transmissible skin diseases.

A large barn, 50x120 feet, is used for keeping horses, mules, cattle, sheep and goats which are being treated. There are also several other barns and small houses used for isolating animals. After animals are in condition that they do not need daily attention, they are turned in a large pasture to permit occasional treatment and observation until complete recovery takes place.

The serum laboratory offers an unusual opportunity for students to become familiar with the preparation of anti-hog cholera serum, autogenous bacterins and other biologics.

Ambulance service for large and small animals is available; also automobiles for transporting students to see cases that cannot be brought to the College.

A post-mortem building with skylights, sanitary floor, hoisting apparatus and other equipment where post-mortem examination is made on all animals that die in the clinics and many dead animals from Bryan and the surrounding country.

A slaughter house with sanitary floor, overhead tracks, hoisting apparatus, scalding vat, meat blocks and cold storage for teaching the slaughtering, cutting, curing and inspection of meat and meat products.

VETERINARY PATHOLOGY.

The laboratory of pathology is reasonably well equipped for instruction in the courses given. The equipment consists of the usual sterilizers, incubators, paraffin-embedding oven, glassware, animals, stains, etc., to be used in pathology and bacteriology. In addition to the usual equipment, a museum, consisting of about 200 specimens of various pathological or disease processes and the more common parasites which infect the domestic animals is maintained.

VETERINARY PHYSIOLOGY AND PHARMACOLOGY.

The physiology laboratory is well equipped with apparatus, reagents, chemicals, etc., for the proper instruction in physiological chemistry, experimental physiology, urine, blood, milk and gastric analysis, and for producing graphic records of the physiological processes of the body.

The pharmacy and experimental pharmacology laboratory is equipped with the apparatus, reagents, chemicals, etc., essential for a thorough training in the preparation of all the official and the more common proprietary medicinal preparations, and for experimental work in the determination of the action of drugs on the living body. It also includes the necessary apparatus for the examination of arsenic, lime-sulphur and other dips which are commonly used.

The toxicology department is equipped with all the apparatus, drugs, chemicals, experimental animals, etc., essential to the proper

study of the action of inorganic and organic poisons, and poisonous plants on the living animal, their detection and the treatment for them.

The apparatus consists of the necessary glassware, mortars, pill tiles, hot water funnels, torsion and laboratory balances, kymographs, pneumographs, plethysmograph tubes, ergographs, tambours, manometers, muscle levers, cardiac levers, saccharometers, urinometers, ureometers, indicanometers, hydrometers, electric centrifuge, electric water bath (for digestion experiments), respiratory and circulatory schemes, microscope, spectroscope, drug mill, steam still, suppository machine and mold, tablet machine, triturate tablet molds and all other necessary equipment. The department also cultivates a garden of medicinal and poisonous plants, which are used in the above courses.

VOCATIONAL TEACHING.

The department of Vocational Teaching is located on the third floor of the Academic Building. One large section room has been converted into a model laboratory. It has been selected and equipped to serve as an example of a good type for high school agricultural departments. One end of the room is provided with stationary tablet chairs, the other end with movable tables and chairs. Two oak cabinets with sliding glass doors contain all the equipment needed for the laboratory work of a high school. These cabinets were designed in the department and are ideal for high school work. Other cabinets contain commercial exhibits, bulletins, and samples of threshed grains. A carpenter's tool box contains a model set of tools for farm use. Two large rat-proof boxes are filled with head samples of grains. A projection lantern cabinet occupies a convenient place in the room. Charts and farm and garden tools are displayed on the walls. Blackboard space, lighting, blinds, picture screen, and every detail of the laboratory serve as an exhibit of what the high school should have.

A second room contains the visual instruction material. Three cabinets are placed around the wall with space for two hundred and thirty-two sets of lantern slides. Another cabinet contains the cartons of the package library, together with a large collection of illustrative catalogues. Some of the equipment found here are the mimeograph, mimeoscope, charting board, photographic reducing and enlarging apparatus, motion picture rewind, projection and motion picture machines and cabinet of lantern slides. A large photographic dark room is set aside in the basement for developing plates and films and for printing and enlarging pictures. It is equipped with electric light, running water, trays, chemicals, amateur printer, electric fan and washing and drying apparatus.

The offices contain the department library of books and bulletins. The newest and best books on vocational education are added from time to time. About twelve thousand bulletins are carefully catalogued and classified for ready reference.

The most valuable equipment of all consists of a rural consolidated school, located conveniently on the Campus, to which the pupils are transported in improved motor buses, and a community in which can be found all the problems of a teacher of vocational agriculture. Students get by observation and participation real experience in class room and community work.

PART III
ADMISSION, EXPENSES

ADMISSION

GENERAL REQUIREMENTS FOR ADMISSION.

Entrance Blanks.—Requests for entrance blanks, and all communications in regard to admission should be addressed to The Registrar, Agricultural and Mechanical College of Texas, College Station, Texas.

Age, Health, Character.—The applicant for admission must be at least sixteen years old and physically able to perform the duties of a cadet. He must be free from contagious or infectious disease. If he comes from another college, he must present a certificate of honorable dismissal.

Vaccination.—The applicant for admission must present a certificate signed by a physician, in one of the forms given below:

1., Texas,192....

This is to certify that.....has had smallpox

(Signed), M. D.

2., Texas,192....

This is to certify that.....has been successfully vaccinated at two different times, the dates being.....

(Signed), M. D.

3., Texas,192....

This is to certify that.....has been successfully vaccinated within the last five years.

(Signed), M. D.

4., Texas,192....

This is to certify that I have today vaccinated.....

(Signed), M. D.

SCHOLARSHIP REQUIREMENTS FOR ADMISSION TO THE FOUR-YEAR COURSES.

Applicants for admission to the Freshman class who satisfy the general requirements noted above, may enter: (a) by *certificate of graduation* from an accredited secondary school; (b) by passing examinations in the entrance subjects; (c) by State teacher's certificate (in part); or (d) by individual approval. *See Methods of Admission below.*

The scholarship requirements for admission are expressed in terms of units, a unit representing a course of study pursued five hours a week for an academic year in an accredited secondary school, constituting approximately a quarter of a full year's work.

NUMBER OF UNITS REQUIRED.

Full Admission.—For full admission to the Freshman class the applicant must present fifteen approved units of secondary school credit, *obtained by one or more of the methods indicated above*, of which the six units in List A, below, are prescribed. The remaining nine units must be offered from the subjects included in List B.

Conditional Admission.—The applicant who presents the six units in List A and approved units from List B sufficient to make a total of at least thirteen units, *obtained by one or more of the methods indicated above*, may be admitted to conditioned Freshman standing, provided the authorities of the College are satisfied from the evidence presented that the applicant is fully qualified to carry the work of the Freshman year in a creditable manner. Conditions must be removed within two years after admission, either by passing entrance examinations in subjects not originally presented for admission, or by extra work in the College. In removing conditions by college work a course carrying three term hours credit per week for one year will count as the equivalent of one unit.

After the beginning of the junior year, entrance conditions may be removed only by taking extra work in the College.

Effective September, 1924, fourteen units will be required for conditional admission.

Effective September, 1925, the provision for conditional admission will be withdrawn.

Subjects and Units Accepted for Admission.

LIST A. PRESCRIBED UNITS.

| | |
|----------------------|---------|
| English | 3 units |
| Algebra | 2 units |
| Plane Geometry | 1 unit |

LIST B. ELECTIVE UNITS.

| | |
|---|---|
| English (4th unit).....1 unit | Natural Sciences: |
| Mathematics: | Biology .....1 unit |
| Solid Geometry $\frac{1}{2}$ unit | Botany .....1 unit |
| Trigonometry $\frac{1}{2}$ unit | Chemistry .....1 unit |
| Advanced Arithmetic $\frac{1}{2}$ unit | General Science.....1 unit |
| | Physics .....1 unit |
| Social Sciences: | Physiography $\frac{1}{2}$ unit |
| Ancient History .....1 unit | Physiology..... $\frac{1}{2}$ or 1 unit |
| Modern History .....1 unit | Zoology .....1 unit |
| English History.... $\frac{1}{2}$ or 1 unit | |
| Amer. History..... $\frac{1}{2}$ or 1 unit | *Vocational Subjects: |
| Civics $\frac{1}{2}$ or 1 unit | Agriculture..... $\frac{1}{2}$ to 3 units |
| Sociology $\frac{1}{2}$ unit | Bookkeeping.....1 to 1 $\frac{1}{2}$ units |
| Economics $\frac{1}{2}$ unit | Drawing..... $\frac{1}{2}$ to 4 units |
| Psychology $\frac{1}{2}$ unit | Com. Arithmetic..... $\frac{1}{2}$ unit |
| Foreign Languages: | Com. Law..... $\frac{1}{2}$ unit |
| Latin .....2 to 4 units | Com. Geography..... $\frac{1}{2}$ unit |
| French .....2 to 4 units | Man. Training..... $\frac{1}{2}$ to 4 units |
| German .....2 to 4 units | Stenography and |
| Spanish .....2 to 4 units | Typewriting.....1 or 2 units |
| | Music.....1 or 2 units |
| | Pub. Speaking.... $\frac{1}{2}$ or 1 unit |
| | Typewriting $\frac{1}{2}$ unit |

Special Requirements for Engineering Students.—In the School of Engineering students not presenting solid geometry for entrance will be required to take that subject as an extra study in the second term of the Freshman year. Special classes will be formed for that purpose.

Students planning to enter the School of Engineering are urged to complete solid geometry in high school. A thorough course in high school physics is strongly recommended for all students.

METHODS OF ADMISSION TO THE FOUR-YEAR COURSES.

The units required for admission to the Freshman class may be secured:

- By certificate of graduation from an accredited secondary school,
- By examination,
- By State teacher's certificate,
- By individual approval,

Or, by a combination of the above methods.

(A) *By Certificate of Graduation from an Accredited School.*

Admission to the Freshman class by certificate will be granted to graduates of accredited secondary schools who present credentials certifying to their age, character, scholarship and graduation, *provided the subjects certified have been approved by the State Department of Education and cover the entrance requirements.* This certificate must

*Not more than 4 units of vocational work will be accepted for admission.

give in detail concerning each subject which the applicant has studied in the school, the length of time in weeks, the number of recitations per week, and the grade or mark indicating his proficiency. Blank certificates may be had upon application to the Registrar.

If the number of units to which the certificate entitles the holder is less than the number required for admission, the deficiency must be made up by examination.

In the matter of admission to the Freshman class by certificate, no credit will be given for work done in an accredited school unless the applicant is a graduate of the school.

It is of the highest importance that the applicant send his certificate, properly filled out, to the Registrar in advance. If this cannot be done, he should bring it with him at the opening of the session. Without the certificate he cannot be admitted, and valuable time will be lost if he has to send for it after reaching College Station.

Accredited Schools.

The list of accredited schools prepared by the State Department of Education is official for this College.

The College will admit also, without examination, such graduates of schools fully accredited by the State universities of other States as comply with the requirements for admission indicated above.

(B) Admission by Examination.

Any or all of the scholarship requirements may be met by passing the entrance examinations.

The spring entrance examinations are held in May, under the supervision of the State Department of Education. These examinations are conducted in each county by responsible school officials and the papers are sent to the State Department of Education to be graded. On the basis of these papers uniform Entrance Certificates are issued, which will be accepted for admission to any Texas College, provided the subjects certified cover the entrance requirements of the college to which application for admission is made. Under this system students are allowed to take examinations at the close of each high school year, in the subjects studied during that year, so that at the end of three or four years of high school work they should have from ten to fifteen entrance credits. This method of admission should appeal particularly to students from non-accredited high schools. Further information regarding the spring entrance examinations may be obtained from the State Department of Education, Austin.

Fall entrance examinations will be held at the College Thursday, Friday and Saturday, September 13, 14 and 15, 1923, under the supervision of the College authorities, and will cover all the subjects required or accepted for admission, as outlined above.

SCHEDULE OF FALL ENTRANCE EXAMINATIONS, 1923.

Note: Acceptable laboratory note books must be presented in connection with the examinations in science subjects.

| Hour. | September 13. | September 14. | September 15. |
|-------|-------------------------------------|--|---|
| 8-10 | Algebra, Agriculture, Sociology. | Plane Geometry, Physiography. | Solid Geometry, Trigonometry, Drawing. |
| 10-12 | Botany, English, Manual Training. | Physics, Latin, Stenography and Typewriting. | American History, Book-keeping, Com. Arith. |
| 1- 3 | Ancient History, Physiology. | M. and M. History, Biology, Psychology. | English History, General Science, Com. Law. |
| 3- 5 | Civics, Chemistry, Public Speaking. | French, Adv. Arithmetic, Economics. | German, Spanish, Zoology Com. Geog. |

(C) *Admission by State Teacher's Certificate.*

Applicants holding a *first-grade* State teacher's certificate, or a high school certificate of the second class, obtained by examination, may receive entrance credit not to exceed nine units, depending upon the subjects in which examinations were taken to secure the certificate. The remaining units necessary for full or conditional admission must be made up by passing entrance examinations in other subjects, included in Lists A and B, above.

Applicants holding a *permanent* State teacher's certificate obtained by examination may receive entrance credit not to exceed thirteen units, subject to the conditions that govern the granting of credit to holders of first-grade certificates.

(D) *Admission by Individual Approval.*

An applicant over twenty-one years of age, who has not recently attended school, and who cannot otherwise satisfy the entrance requirements, may be admitted to the Freshman class without examination, subject to the following regulations:

- (1) He must make application on the official entrance blank.
- (2) He must furnish evidence that his preparation is substantially equivalent to that required of other applicants, and that he possesses the ability and seriousness of purpose necessary to pursue his studies with profit to himself and to the satisfaction of the College.
- (3) He must show, by a test in composition, that he has an adequate command of the English language.

The applicant should forward his credentials to the Registrar in advance of his coming, but in no case will he be admitted without a personal interview.

A student admitted by individual approval will not be considered a candidate for a degree until he has satisfied the entrance requirements. Upon completion of freshman English such student will be given credit also for three entrance units in English; upon completion of freshman mathematics he will be given credit for two entrance units in algebra and one in plane geometry. For each additional Freshman and Sophomore subject covering a period of one session and passed with a grade of B or A, a credit of one entrance unit will be given. At the end of the Sophomore year such additional units as are needed to satisfy the en-

trance requirements in full must be made up by taking entrance examinations.

ADMISSION TO ADVANCED STANDING.

Admission to advanced standing may be granted under the following conditions:

(1) The applicant must submit a letter of honorable dismissal from the institution last attended.

(2) A certificate of preparatory work, covering the entrance requirements of this College must be presented.

(3) An official transcript of the record of all work done in institutions previously attended must be submitted, together with a marked catalogue showing the courses referred to in the transcript.

On the basis of these credentials credit will be given in this College in so far as the work previously completed is equivalent in character and extent to subjects included in the course of study pursued here. Credits given by transfer are provisional and may be cancelled at any time if the student's work in this College is unsatisfactory.

It is essential that all credentials be forwarded to the Registrar in advance.

College credit for work done in secondary schools will be given only on the basis of examinations at the College, and shall not include work presented in satisfaction of the entrance requirements.

ADMISSION OF SPECIAL STUDENTS.

At the discretion of the Dean of the College, a limited number of young men over twenty-one years of age may be admitted to the College as special students, subject to the following regulations:

1. The applicant must show good reason for not taking a regular course, and must submit satisfactory evidence that he is prepared to profit by the special studies he wishes to pursue.

2. A record of his preparatory work must be submitted on the official entrance blank, and must be accompanied by a statement showing (a) his experience; (b) a plan of study, enumerating the studies he desires to pursue; and (c) the purpose or end expected to be accomplished by his study.

3. In order to be admitted to the work of any department, a special student must secure the consent of the head of the department; and his course of study, as a whole, must be approved by the Dean of the College.

Special students are subject to the rules and regulations governing regular students, and are required to take the prescribed theoretical and practical military training.

A special student who may desire to become a candidate for a degree must satisfy the entrance requirements and obtain the consent of the Dean of the College.

REQUIREMENTS FOR ADMISSION TO THE TWO-YEAR COURSES.

1. The minimum age for admission to a two-year course is 18 years, except in the case of graduates of non-accredited schools, who may be admitted at the age of 16 years.

2. The applicant must present a certificate showing the satisfactory completion of the tenth grade of a classified school, or its equivalent. He must also present satisfactory certificates in regard to health, character and vaccination, as in the case of candidates for admission to the four-year courses. *The completion of a two-year course does not prepare the student for admission to a four-year course.*

3. The two-year courses are not open to candidates who are qualified to enter a four-year course.

ADMISSION AT THE BEGINNING OF THE SECOND TERM.

For the benefit of students admitted at the beginning of the second term, certain first term subjects are repeated. By completing these subjects, and by attending the summer session for twelve weeks, the student should be able to graduate with his class. For those who are unable to attend the summer session, it is inadvisable to enter at the beginning of the second term.

REGISTRATION.

Upon arrival at the College, young men intending to enter will report at once to the Academic Building for information in regard to registration.

SESSION.

The session begins on the third Wednesday in September and extends through thirty-seven weeks.

Monday, Tuesday, Wednesday and Thursday, September 17, 18, 19 and 20, will be devoted to the registration of students. Recitations will begin Friday, September 21.

EXPENSES.

REGISTRATION FEE.

Every student is required to register when he first enters the College and thereafter at the beginning of each term.

Upon registering for the first time he is charged a registration fee of five dollars. He pays this fee only once unless his connection with the College should later be severed; in that case he must pay the registration fee again in order to re-enter.

LATE REGISTRATION.

All students, except those registering for the first time, who do not complete their registration on the days set for that purpose, will be charged a fee of five dollars for late registration.

In the case of irregular and special students, registration is not complete until their assignment cards are returned, properly signed, to the Registrar.

EXPENSES FOR THE SESSION.

The fixed charges are as follows:

| | | |
|--|---------|----------|
| Trust fund, payable on entrance..... | \$ 5 00 | |
| Incidental fee, payable on entrance..... | 10 00 | |
| Medical fee, payable on entrance..... | 10 00 | |
| Student activities fee..... | 15 00 | |
| Maintenance fee, first term, payable on entrance.... | 125 00 | |
| Key deposit, payable on entrance..... | 1 00 | |
| Baggage fee, payable on entrance..... | 1 00 | |
| | | <hr/> |
| | | \$167 00 |

Freshmen pay in addition:

| | |
|--|--------|
| Registration fee | 5 00 |
| Second term maintenance fee, payable February 2... | 120 00 |

Students will bring one piece of **exchange, money order or cash, equal to the exact amount of the fee to be paid and a second piece of exchange** for their other expenses as listed below:

| | |
|--|----------|
| Uniform, payable on entrance, about..... | \$ 78 50 |
| Books, from \$15 to..... | 25 00 |
| Laboratory fees, averaging about..... | 10 00 |

For Freshman Engineering Courses:

| | |
|---|----------|
| Drawing instruments, about..... | 15 00 |
| New students will need at entrance about..... | \$300 00 |

Personal checks will not be accepted.

Payment for each term must be made in advance. A student entering during a term will be charged maintenance only for the remainder of that term.

Deductions.—No deductions will be made for entrance within 15 days after the opening of a term, nor will there be any refunds for the last 15 days of a term or the last 15 days paid for.

Trust Fund.—The trust fund will be returned at the close of the fiscal year, provided the student is not indebted to the College, and has no charges against him for property damaged or destroyed. If charges amounting to fifty per cent. of the trust fund are made against a student during the session, he will be required to make an additional deposit covering the total charges made against him.

Incidental Fee.—The incidental fee is used for sundry incidental expenses, such as printed forms, examination books, etc.

Medical Fee.—The medical fee covers the professional services of the College surgeon and the hospital staff. For students entering at the beginning of the second term, the medical fee is one-half the medical fee shown above.

Student Activities Fee.—The student activities fee is for the support of student activities, and by a practically unanimous vote of the student body this fee has been fixed at \$15. This fee is paid at registration along with other fees, but it is not compulsory. A student entering after the Christmas holidays will pay only \$9.25. On payment of this fee a student is entitled to be admitted to all intercollegiate and interscholastic contests held at College Station, to receive a copy of the Longhorn, the College annual, and one annual subscription for the Battalion, the student College publication, throughout the scholastic year.

No Refund.—Incidental, medical, and registration fees will in no case be refunded.

Maintenance Fee.—Maintenance includes board, fuel, laundry, light, room rent, single bedsteads, mattresses, tables, chairs, and washstands. Each student is required to keep on hand a supply of bed clothing for single beds, towels, etc.

Laboratory Fees.—The laboratory fees cover in part the cost of materials used by the student in his laboratory work. The total amount of these fees varies according to the classification of the student. The fees for the several courses are listed under "Courses of Instruction by Departments." They are payable during registration, at the beginning of each term.

Uniform Deposit.—The deposit of \$78.50 for uniform is not required of Juniors and Seniors who are not members of the R. O. T. C.

Forfeiture on Withdrawal.—Refund of maintenance will be made only in case the student is required to withdraw by Faculty action or in case of sickness disqualifying him for the discharge of his duties for the rest of the term. When such sickness takes place at the College, it must be attested by the College Surgeon before the student can receive the refund of the unused portion of his maintenance fee.

Graduate Students.—The expenses of a graduate student are \$25 for registration fee, incidental fee and medical fee, with charge for maintenance as above.

Day Students.—Day students pay \$30, to cover registration fee, trust fund, incidental fee, and medical fee as above.

Officers of the College.—Officers of the College taking courses of instruction pay registration fee, \$5.00, the incidental fee, \$10, and laboratory fees.

Deposits.—Deposits may be made with the Fiscal Department. Depositors will draw their money by giving receipt direct to the Fiscal Department as money is required. Deposits and withdrawals must be given in even dollars.

Checks.—A graduated collection fee will be charged on all out-of-town collections, except bank exchange, postal money orders, and express money orders. Checks or drafts that have been altered in any way will not be accepted.

Unpaid Checks.—If a check or draft accepted by the Fiscal Department as cash is returned unpaid by the bank on which it is drawn, the party presenting it will be required to pay a penalty of \$1.00. If this penalty and the amount of the check are not paid within seven days after notice is sent from the Fiscal Department, further service will be withheld from party not complying with this regulation.

Duplicate Receipts.—A fee of fifty cents will be charged for duplicate receipts.

UNIFORM.

Every cadet must keep on hand and in good condition one regulation, olive drab woolen serge blouse, one pair olive drab woolen serge breeches, one regulation olive drab cap with ornament, one regulation service hat with silk cord, two olive drab woolen shirts, two olive drab cotton shirts, two white shirts, cuffs and soft rolled collar attached, two pairs tan leather shoes, one regulation black four-in-hand tie, one regulation waist belt, one regulation Sam Browne belt, one pair spiral leggings, two pairs cotton khaki breeches, one set collar ornaments, one pair lapel insignia, three R. O. T. C. shields, one gold star, one working suit and an ample supply of underwear.

In the interest of comfort and economy every cadet is advised to provide himself with the regulation O. D. overcoat.

PART IV
COURSES OF STUDY

COURSES OF STUDY.

There are thirteen regular courses, extending through four years; twelve of them lead to the degree of Bachelor of Science, the particular course pursued being specified in the diploma; the course in Veterinary Medicine leads to the degree of Doctor of Veterinary Medicine; and there are graduate courses and short courses as shown below.

REGULAR COURSES.

- I. Course in Agriculture.
- III. Course in Mechanical Engineering.
- IV. Course in Civil Engineering.
- V. Course in Electrical Engineering.
- VI. Course in Textile Engineering.
- VIII. Course in Chemical Engineering.
- IX. Course in Architecture.
- X. Course in Science.
- XI. Course in Veterinary Medicine.
- XII. Course in Agricultural Education.
- XIII. Course in Industrial Education.
- XIV. Course in Agricultural Administration.
- XV. Course in Agricultural Engineering.

GRADUATE COURSES.

Graduate courses leading to the degree of Master of Science in Agriculture, in Agricultural Education, in Architecture, in Chemical Engineering, in Civil Engineering, in Electrical Engineering, in Mechanical Engineering, or in Veterinary Science.

TWO-YEAR COURSES:

- (C) Course in Agriculture.
- (H) Course in Textile Engineering.

EIGHT WEEKS' COURSE.

Course in Automobiles and Tractors.

THE SCHOOL OF AGRICULTURE.

In the School of Agriculture there are offered the following courses:

REGULAR FOUR-YEAR COURSES.

Course in Agriculture.

Course in Agricultural Administration.

Course in Agricultural Education.

TWO-YEAR COURSE.

Two-year Course in Agriculture.

SHORT COURSE.

Eight Weeks' Course in Automobiles and Tractors.

COURSE IN AGRICULTURE.

The regular four-year course has as its main object the preparation of young men for the business of farming, for the pursuit of scientific investigation along some line of agriculture, for becoming county demonstration agents, or extension workers, for specialists in landscape art and for teaching in the high schools and agricultural colleges. It also affords excellent preparation for young men who intend to follow business pursuits, especially for merchants and bankers. Systematic training is given in the sciences of biology, chemistry, entomology and geology, which are fundamental to the study of scientific agriculture, and in technical subjects, covering the main divisions of agriculture, including agricultural engineering, agronomy, animal husbandry, dairy husbandry, farm management, horticulture, and rural sociology. As shown in the curriculum, the work in the Junior and Senior years is arranged so as to provide for a choice by the student of one of nine groups of studies. This arrangement affords the student a wide range of subjects from which to choose his major work, permitting him to specialize in agricultural education, agricultural engineering, agronomy, animal husbandry, dairy husbandry, farm management, horticulture, landscape art, or in rural sociology.

As will be noted, certain studies are common to all the groups; and in each group a part of the work is elective. The choice of groups is to be made by April 15 of the Sophomore year.

COURSE IN AGRICULTURAL EDUCATION.

The purpose of the course in Agricultural Education is to prepare men to teach agriculture in secondary schools and to administer and supervise vocational agriculture such as is carried on under the Smith-Hughes Act. The fundamental principles in the main divisions of agriculture, and a minimum of professional training and practice teaching are required. Considerable opportunity is given the student by means of the electives for choice of subjects. In case of students trans-

ferring from other institutions and entering the course in Agricultural Education, the electives are not limited to the courses offered by the School of Agriculture; such credit and classification will be given as the facts may warrant. Agricultural students who have completed the junior year in the State Normal Schools, and graduates of the Junior Agricultural Colleges can transfer to this course with little or no loss of time.

Graduates of approved institutions having satisfactory training in the sciences underlying the study of agriculture will be awarded the degree of Bachelor of Science in Agricultural Education upon satisfying the following requirements: forty-five term-hours of technical agriculture as approved by the Professor of Vocational Teaching, fifteen term-hours of professional subjects as prescribed in the curriculum, and at least a year's residence. Candidates for admission under this provision must present their credits in advance.

The great demand for skilled teachers and administrators of vocational agriculture in every State should make this course appeal to young men with good science training, farm experience, and successful experience in teaching and administering schools.

COURSE IN AGRICULTURAL ADMINISTRATION.

The course in Agricultural Administration includes the fundamental sciences, but places the principal emphasis upon general economics, agricultural economics, ranch economics, accountancy, statistics, and marketing.

The central aim of the course is to prepare men to become agricultural economists in the broad sense of this term. This involves facility in the use of statistics and accountancy, which may be used as tools in the solution of economic problems, but above all, the agricultural economist must possess vision, and must be able to reason from cause to effect in economic terms.

More specifically, the course leads to such vocations as: general business, such as merchant, banker, etc.; the administration of landed estates and properties, large and small; marketing specialist; manager of cooperative business organizations, and corporate business organizations; agricultural adviser for corporations, including railroads; secretaries for chambers of commerce; accountants and statisticians; instructors in economics and commercial subjects.

The production side of agriculture also receives due emphasis in this course and a logical sequence of courses has been arranged by each of the heads of the various departments in the School of Agriculture. A number of these courses may be elected by students in the Course in Agricultural Administration.

It should, perhaps, be emphasized that there is at present a great need for business men who have a thorough understanding of both the economic and technical side of agriculture. This is especially true in a State like Texas, which is so predominantly agricultural. Much of the misunderstanding that now exists between rural and urban

communities will be dispelled when more men with the type of training provided for in this course are distributed over the State.

TWO-YEAR COURSE IN AGRICULTURE.

This course is intended for young men who wish to spend one or two years in preparing to go back to the farm and apply the more important scientific methods of farming which have been worked out in recent years. To this end the course is made highly practical and includes much of the technical work required in the four-year course. In the first year, the studies are nearly all prescribed; in the second year, they are elective. The electives must be chosen under the advice and direction of the Dean of the School of Agriculture. Students who have had approved farm experience will, upon completion of this course, be awarded certificates.

EIGHT WEEKS' COURSE IN AUTOMOBILES AND TRACTORS.

The object of this course is to prepare men to become operators of tractors and tractor machinery, or to become tractor, automobile and motor truck mechanics. The course is intensely practical.

The subjects covered are single cylinder gas engines, tractors, chassis, babbitting, soldering, acetylene welding, electrical ignition, starting and lighting, multiple cylinder motors, repair, adjustment and troubles.

Admission Requirements.—In order to enter this course the applicant must be at least eighteen years of age; it is desirable, though not required, that he have a grammar school education. He must present a certificate from some reliable person, showing that he is in good standing in the community from which he comes.

During the summer session the minimum age requirement for this course is 16 years.

Expenses.—The fixed charges are:

| | |
|--|----------------|
| Incidental fee | \$ 2 50 |
| Medical fee | 2 50 |
| Maintenance, including board, room, lodging and laundry | 56 00 |
| Laboratory fee | 50 00 |
| Trust fund | 10 00 |
| Total | <hr/> \$121 00 |

(The charges for this course are subject to change due to variation in cost of maintenance and operating expenses.)

Registration Dates.—New classes in this course are formed about every two weeks. The first course for the session 1923-24 will open September 26. Students should notify the Registrar of their intention of entering some time in advance of the opening date. For special circular describing this course write the Professor of Agricultural Engineering.

Advanced Work.—Students who have completed the eight weeks' course and who wish to specialize in one of the branches of the eight weeks' course may do so by taking special work for four or eight weeks. The fees for this work will be at the same rate as those of the regular eight weeks' course.

Students may enroll for this advanced work on the approval of the Dean of the College and of the head of the Agricultural Engineering Department.

THE SCHOOL OF ENGINEERING.

COURSES OF STUDY.

In the School of Engineering there are offered the following courses:

REGULAR FOUR-YEAR COURSES.

Course in Agricultural Engineering.
Course in Architecture.
Course in Chemical Engineering.
Course in Civil Engineering.
Course in Electrical Engineering.
Course in Mechanical Engineering.
Course in Textile Engineering.
Course in Industrial Education.

TWO-YEAR COURSE.

Two-year Course in Textile Engineering.

COURSE IN AGRICULTURAL ENGINEERING.

The course in Agricultural Engineering is designed to give the student an engineering training with an agricultural viewpoint. A thorough grounding in fundamental engineering principles is given, as much time is devoted to purely agricultural subjects as possible, and the application of engineering to agriculture receives its share of attention.

The need of such engineers is being felt more and more each year as the demand grows for farms to be better equipped with power machinery, farm buildings and home conveniences and more land to be reclaimed by drainage, irrigation and clearing.

Graduates of this course are prepared for service in the following lines: with the colleges and government in teaching, extension and Experiment Station work; with manufacturers of farm machinery, gas engines, tractors, other farm equipment and farm buildings, in advertising, sales and designing work; with engineering and contracting firms doing irrigation work and drainage work; and with farm and trade journals.

COURSE IN ARCHITECTURE.

The course in Architecture is planned to give a thorough training in the arts and sciences which form the foundation work necessary for the design and construction of buildings. Practice courses are arranged to go hand in hand with the theory taught, serving to fix in the student's mind the proper application of theory to practical problems and also preparing him to become upon graduation of immediate usefulness as an architect's assistant.

The course is arranged in two groups: Group 1, General Course; Group 2, Structural Course. The Freshman year is the same in both groups, while the Sophomore, Junior and Senior years are arranged, in the General Course, to give a broad general training in design and construction, with special emphasis placed upon design; and, in the Struc-

tural Course, to give a minimum of pure design and a maximum of theory and practice in the structural side of building.

Students possessing an aptitude for arrangement, proportion and harmony are advised to elect the General Course, while those who are inclined more to mathematics and the engineering side of building are advised to elect the Structural Course.

Graduates in Architecture find positions as draftsmen, designers, superintendents or general assistants in architects' offices; in the architectural and engineering departments of railway and business corporations; in construction companies; in the Civil Service of the government, and in State and municipal employment. Three to four years of progressive practical experience should fit the young architect to enter the active practice of his profession. Ability, integrity, tact and resourcefulness will be the determining factors in his success. Modern building is an extremely complicated industry and the duties of the architect, as the designer and adviser in building operations are exacting and complex. One man cannot be expert over the whole field, and hence partnerships are desirable. It might be pointed out that the two courses of study given in this department naturally lead to the formation of partnerships between individuals of the two groups.

COURSE IN CHEMICAL ENGINEERING.

This course is designed to prepare young men for technical work in those industries in which raw materials undergo a chemical change in the process of manufacture. Many fields are open to students trained in applied chemistry, and inquiries are continually being received asking for men capable of filling important positions in different industries. Some industries important to the present and future development of this State are those dealing with cotton seed products, sugar, leather, petroleum, cement, ceramics, and iron and steel. The analytical chemistry given in the course is sufficient to enable the graduate to engage in the work of a commercial plant or to enter an industrial plant as a control chemist. The control chemist repeatedly analyzes and evaluates the raw material used in the manufacture as well as the intermediate and finished products. It is through such control that industries of this kind have been made scientific. Pure food laws and other legal enactments calculated to protect the people against fraud have, of late years, greatly accentuated the importance of this work. At the same time enough work is given in general engineering practice to enable the graduate who enters the works as a control chemist to come in time to a full understanding and mastery of the industry in which he is engaged.

The fifth year's work, leading to the degree of Chemical Engineer, is designed to facilitate the transformation of the control chemist into the manager of an industrial plant, capable of adapting chemical processes of varying conditions and improving upon them as occasion demands.

COURSE IN CIVIL ENGINEERING.

The course in Civil Engineering has for its object the thorough grounding of young men in the underlying principles of engineering

as a preparation for their technical work after graduation. The fundamentals of good citizenship are also stressed as these concern the future relationships of practicing engineers to their surroundings. As many special lines are touched on as time will permit. Preliminary field and office work, specification and contract writing, the letting of contracts, supervision of construction, the preparation and presentation of designs and reports, etc., are all treated in as much detail as possible in the time available. The course is divided into two groups: (1) General civil engineering, and (2) highway and municipal engineering.

The objectives of the general civil engineering course are many and varied. Among them may be mentioned professional practice in surveying, water supply, sewerage and sewage disposal; railway location, construction and maintenance; the design and construction of dams, reservoirs, irrigation systems, pumping plants, drainage and navigation canals, wharves and docks, levees, river regulation works; foundations, masonry structures, steel and reinforced concrete bridges, steel and reinforced concrete buildings, and other structures.

Graduates in the highway and municipal engineering group are prepared for service in the highway departments of States, counties, road districts, city engineering departments, with consulting engineers, contractors engaged in road and pavement construction, road machinery supply houses, waterworks and sanitary engineers and contractors, etc.

A well equipped laboratory for the study of bituminous pavements and paving materials affords not only a means of up-to-date instruction for students, but opportunity for co-operative work with cities in the investigation of their pavements and available paving materials. Connected with it is an excellently equipped testing laboratory for non-bituminous road materials.

The fifth year's work, leading to the degree of Civil Engineering (C. E.), offers opportunity for more advanced study in some of the branches of civil engineering than can be had within the limits of the four-year course.

On page 128 there is given a list of courses from which the fifth-year student will ordinarily be expected to select his studies, but the subjects selected must be such as to form a consistent group.

COURSE IN ELECTRICAL ENGINEERING.

The course in Electrical Engineering is designed to give the student a thorough training in the underlying principles of direct and alternating current phenomena and of electric measurements. It provides training in subjects fundamental to the general practice of the engineering profession, in the theory of electricity, and in the application of the theory to practical problems in many branches of engineering.

The work of the first three years of the course is intended to cover most of the fundamental principles of engineering. This is followed in the senior year by a more detailed study of the application of these principles. The applied subjects are taught with two objects, the first and more important of which is to impress more firmly on the student's mind the principles already learned. The second object is to give the student specific information about some branch of electrical engineering.

Electrical Engineering presents broad opportunities for the young

man trained to meet its needs. A few of the fields into which he may enter are outlined below:

The electric power plant in a community has come to be considered the source of energy not only for the lighting of the buildings and streets, but for the operation of all kinds of machinery ranging in size from the largest factory to the sewing machine and the vacuum cleaner. It has come to be recognized that technically trained engineers are needed not only for the more highly technical positions in the organization of the central stations, but that by virtue of their technical knowledge they are also best qualified for practically every position of responsibility in such organizations.

The utilization of electrical energy by manufacturing organizations has necessitated the employment of electrical engineers to design the installation of the electrical machinery and supervise it when it is in operation.

The electric railway industry is another field in which electrical engineers are required, and the electrification of steam railroads has created a demand for electrical engineers to supervise the electrical equipment used in the production of the power and operation of the trains. The electrification of railroads is in its infancy but the decided gain in efficiency from operating with electricity instead of steam will cause a steady increase in the number of roads to be electrified.

The telephone and telegraph companies have always used a limited number of electrical engineers but with the greater complexity of electrical devices which are displacing the simpler systems, trained engineers are in demand not only for the more highly specialized positions, but also for administrative and executive positions where a knowledge of electrical engineering is becoming important. Radio engineering is a new field for electrical engineers which, while comparatively new, bids fair to become of considerable importance.

Many electrical engineers are needed in organizations engaged in the manufacture of electrical machinery and in its sale and erection.

There are a great many other subdivisions such as that of the illuminating engineer, the signal engineer, the battery engineer, and a score of others which offer excellent fields for men with proper training.

The course is outlined with a view to giving a young man such fundamental principles of electrical engineering and such mental development and faculty of analysis, as will enable him to rise to a position of responsibility in any one of the principal fields of electrical engineering.

A Signal Corps unit of the Reserve Officers' Training Corps has been established at the College, and electrical engineering students who elect to become members of this unit have an opportunity to receive thorough instruction in telephone, telegraph and radio engineering in addition to their other engineering work. For use in the Signal Corps work, the government has supplied a complete assortment of modern equipment.

A branch of the American Institute of Electrical Engineering has been organized among the students and affords the means of keeping students in touch with the latest development in the electrical field.

COURSE IN MECHANICAL ENGINEERING.

The course in Mechanical Engineering is designed with a view of giving the student such training as will fit him to design, construct and erect machinery, power and industrial plants, equipment, etc., and to manage or to operate the same with the greatest economy of labor and materials.

It is not possible to give the student that skill in the shops and that experience in the laboratories which come with long service in practical work, but the aim is to give him the power to understand and apply the underlying principles which are involved in all problems met with in practical engineering.

When it is remembered that there is a steam power plant or other mechanical equipment connected with practically every industrial enterprise it is apparent that the graduates from the course in Mechanical Engineering should find a large field for their activities in the industrial development of the State. While the chief aim of the curriculum is to give a thorough grounding in the fundamentals it is possible for the student, by group selection in his senior year and by selection of his electives, to specialize along the lines of his choice. The group arrangement of the senior year enables the student to specialize in power plant work, in transportation and railway mechanical engineering, or in factory management and industrial engineering. The electives enable the student to specialize in cotton seed oil industry, or in petroleum industry. The training at the College, followed by a few years' contact with the practical work, should fit one to take charge of the operation or of the management of almost any industrial enterprise whether strictly mechanical engineering or involving other activities as well.

Included in the field of the graduate from this course are railway motive power, automotive, and marine transportation, refrigeration, steam and oil engine power equipment, heating and ventilation, iron and steel production, and fabrication, machine tool industry, lumber production and utilization, factory management, production and refining of petroleum, and almost unlimited other lines.

In addition to the purely technical studies, the Mechanical Engineering Course has a well balanced portion of cultural subjects which provide a good general education and equip the graduate for leadership in his community. The habits of accurate analysis and the training in logical thinking make him a better citizen and a more desirable leader.

COURSE IN TEXTILE ENGINEERING.

The object of this course is to prepare young men for entering the field of cotton manufacturing. The unprecedented development of the cotton milling industry in the South has brought about an era of prosperity and created a strong demand for educated young men in this industry. The State of Texas offers excellent advantages for the manufacture of cotton goods in its vast supply of raw material, intelligent labor, and excellent climatic conditions, and it is believed that cotton manufacturing will develop as rapidly as skilled and capable managers familiar with local conditions are to be had. The studies outlined have been selected with a view of giving theoretical and practical training

in the manufacture of cotton goods as thorough as is possible in the time available.

Graduates from this course are prepared to enter the cotton mills to operate any machinery. After a study of labor conditions and requirements they are in line for positions of overseers, superintendents and managers. Graduates may also find employment in the fields of mill engineering and architecture, installation of equipment, dyeing and the sale of machinery and supplies.

COURSE IN INDUSTRIAL EDUCATION.

The course in Industrial Education has for its main purpose the preparation of teachers of related subjects as prescribed for industrial education under the Smith-Hughes Act. Graduates of this course will be prepared not only to teach related subjects but to teach the regular shop work ordinarily given in the high schools of the State, and to direct or supervise industrial education in large city school systems. The course requires contact with a wide range of trades through its shop work and a liberal education in science, mathematics, history, English, etc. Thorough preparation in the art of teaching and supervising is afforded. The wide range of electives permits the student to specialize in some field, or to do more extensive work in a wider field.

The State plans for requirements of teachers of related subjects in classes using Federal funds under the provisions of the Smith-Hughes Act specify that the teacher must have had at least 880 hours of experience in at least two trades. This is to insure adequate contact with shops operated on a commercial basis. Students in this course are expected to get this experience through summer work following the sophomore year and the junior year. The Department of Vocational Teaching will assist in arranging for this work.

TWO-YEAR COURSE IN TEXTILE ENGINEERING.

The two-year course in Textile Engineering is intended for young men who wish to take up the work of cotton manufacturing and cannot spend more than two years in preparation.

The aim is to prepare young men for responsible positions in a cotton mill after a short term of apprenticeship. A limited number of students taking this course will be given employment during their vacant periods in operating the equipment of the department, which is turning out a commercial product. In this way students are encouraged to devote a good deal more time to the operation of the machinery, which should better fit them for their career in the mill and at the same time help to pay their expenses in college. Certificates will be given students who complete the work as outlined.

Students completing this course are fitted in a limited way for the same fields that are open to graduates. They will be very much restricted in the field of dyeing and mill engineering and architecture.

THE SCHOOL OF VETERINARY MEDICINE.

COURSE IN VETERINARY MEDICINE.

This course has for its object the systematic training of young men in all matters pertaining to diseases of domestic animals.

The freshman and sophomore years are, in large measure, devoted to those physical and biological studies that contribute so much to an understanding of the problems of health and disease. The junior and senior years are almost entirely devoted to studies of a technical nature.

Those who expect to engage in ranching, dairying or some other branch of animal industry will find the course of great value to them in preventing serious losses from disease or mismanagement of their animals. Those who possess a biological mind will find it an interesting life study, and such men are in great demand in matters of public health or as investigators in Experiment Stations. Those who pursue the course from commercial motives will find its rewards are similar to those of any other form of human endeavor in that these will always be in proportion to the intelligence and energy displayed by the individual.

When it is recalled that the value of domestic animals in Texas is about five hundred million dollars, it becomes apparent that men informed on such matters will be of great value to the State.

COURSE IN SCIENCE.

Administered by the Dean of the College.

The course in Science is planned to impart a familiarity with the methods of science; to provide a broad training in the natural sciences, including biology (bacteriology, botany, zoology), chemistry, entomology, geology, and physics; and to afford the opportunity to "major" in one of the sciences named.

Upon graduation the student will have pursued courses in his major department through at least three years, in most cases, four years.

A considerable part of the curriculum is devoted to such general studies as economics, English, history, mathematics and sociology, which are essential to a liberal education; and there is correspondingly less emphasis on the vocational or professional aim.

Graduates of this course should be qualified to take up scientific work in the service of the State or Federal Department of Agriculture or of Agricultural Experiment Stations; to enter upon advanced work along scientific lines; or to become teachers of science in secondary schools.

The course also affords a good preparation for the study of medicine.

GRADUATE COURSES.

Administration.—The regulations concerning graduate studies and all matters relating thereto are administered by the Committee on Graduate Studies.

Advanced Degrees.—The College offers the degree of Master of Science in each of the following courses: Agriculture, Agricultural Education, Architecture, Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Veterinary Medicine.

Admission.—In order to be admitted to a course of study leading to an advanced degree, the candidate must satisfy the following requirements:

1. He must be a graduate of this College or of some other approved institution whose requirements for graduation are substantially equivalent to those of this College.

2. His undergraduate course of study must be of such nature as to afford a satisfactory foundation for the graduate studies he proposes to take up.

3. His undergraduate record must be of such high order as to satisfy the committee that he is qualified by native ability and by training to pursue graduate studies with profit and with credit. In case it does not fully meet this requirement, the committee may require the completion of additional undergraduate work with a grade of at least B.

Application.—Application should be made at least one month in advance to the chairman of the committee, and in case the candidate comes from another institution, his application must be accompanied by a complete transcript of his undergraduate record, properly certified.

Admission to Candidacy.—Admission as a graduate student does not imply admission as a candidate for a degree. In order to become a candidate for an advanced degree, the student must make formal application,—in the regular session before December 15, and in the summer session one week before the close of his first term. The application will be approved only in case the student has demonstrated his ability to do graduate work in a creditable manner.

Registration.—Graduate students must register at the beginning of each term at the office of the Registrar.

Their assignment cards are to be approved by the chairman of the committee.

Studies.—(a) For the degree of Master of Science in Agriculture or in Agricultural Education or in Veterinary Medicine the candidate must choose from the graduate courses listed under the several departments, a major subject and two minor subjects; his choice to be subject to the approval of the heads of departments concerned and of the committee. For each hour of theory the student will be expected to devote to preparation six hours for the major subject and three hours for each minor subject.

(b) In graduate courses offered in the School of Engineering, each hour of theory involves three hours of preparation. Subject to the ap-

proval of the heads of departments concerned, and of the Committee, the student must elect for each term work amounting to from 48 to 52 clock hours per week, including recitation, practice, and preparation. In general, the work must be made up of graduate courses, but in cases in which it may be deemed advisable, a limited amount of undergraduate work may be included; for such undergraduate work, each hour of theory will be counted as involving one and one-half hours of preparation.

Residence.—Advanced degrees will not be conferred except after a residence of at least one year at the College. For candidates engaged in teaching or other regular employment, the period of residence will be increased to such extent as the committee may determine.

Work in Summer Session.—The residence requirement may be satisfied by residence during three summer sessions of twelve weeks each.

The number of graduate courses offered in the Summer Session is limited, and application should be made at least one month in advance.

Work in Absentia.—In a few courses which involve a considerable amount of field study and investigation, the student may do a part of his work *in absentia*. A list of such courses and a statement of the provisions for such work may be had on application.

Amount of Work.—The amount of work required for an advanced degree is reckoned as the equivalent of the student's full time for one academic year.

Quality of Work.—In order to be allowed to go on with his course a graduate student must give continued satisfaction in his work.

Thesis.—The candidate must submit a thesis, which shall be based upon his work in the department in which he takes his leading subject. Its title must be submitted to the committee through the head of the department in which it is to be written for approval by November 15. In matter and style the thesis must be acceptable to the head of the department in which it is written and to the committee. It must show that the candidate has the ability to do independent work; and, by correct citation of authorities, must show that he has satisfactory acquaintance with the literature of his field.

The thesis must be typewritten on paper 8½ inches by 11 inches; two weeks before commencement it must be presented to the committee through the head of the department in completed form ready for binding. Before the degree is conferred a bound copy for the College library must be deposited with the chairman of the committee.

Examinations.—The candidate must pass satisfactory examinations upon the work of his course. These examinations may be oral or written, or both, and shall be open to the committee and to members of the Faculty.

Reports.—Heads of departments will make reports to the Registrar at the end of each term on all graduate work done in their respective departments; and such other reports on the progress of their graduate students as the committee may request.

Special Committee.—The instructors under whom a graduate student

takes work shall constitute a special committee to direct and advise him concerning his work and to represent him before the Committee on Graduate Studies. The instructor in charge of the leading subject shall be chairman of the special committee in each case.

Graduation.—Candidates for advanced degrees who expect to complete their work at the end of a given term must give written notice to the chairman of the committee to that effect at least three months in advance. When a candidate has to the satisfaction of the Committee on Graduate Studies completed the requirements for an advanced degree he will be recommended to the Faculty for his degree. The diploma fee is \$7.50.

WORKING FELLOWSHIPS IN THE EXPERIMENT STATION.

With the approval of the committee, a graduate student holding an appointment to a working fellowship in the Agricultural Experiment Station may take part of his work for the degree of Master of Science under the head of a division of the Agricultural Experiment Station. The holder of such a fellowship must spend at least two years upon his graduate work.

CURRICULA.

THEORY, PRACTICE, TERM-HOUR.

In the curricula shown on the following pages, the time devoted each week to the several subjects is expressed in clock-hours. The hours devoted to "theory" (which includes recitations and lectures) are indicated in the column headed "Th.," the hours devoted to "practice" (which includes work in laboratory, shop, drawing room or field) are indicated in the column headed "Pr."

A "term-hour" is one clock-hour of "theory" or two clock-hours of "practice" per week for one term.

Notes.—1. In addition to the work shown in the several curricula,

(a) All first-year students are required to take physical training three hours a week.

(b) Students taking English are required to attend conferences with their instructors.

(c) In the four-year agricultural and engineering courses all students are required to attend an assembly not oftener than once a month.

(d) Members of the R. O. T. C. are required to devote two afternoons in the second term of every year to target practice.

2. Junior and senior courses in military science are required of members of the advanced course in the R. O. T. C.; they are not open to other students.

I.—COURSE IN AGRICULTURE.

FRESHMAN YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------|-----------------|-----|--------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Agronomy 103 | 3 | 2 | Animal Husbandry 102..... | 0 | 4 |
| Field Crops | | | Market Types | | |
| Animal Husbandry 101..... | 0 | 4 | Biology 102 | 2 | 4 |
| Market Types | | | General Botany | | |
| Biology 101 | 2 | 4 | Chemistry 102 | 3 | 3 |
| General Botany | | | Inorganic | | |
| Chemistry 101 | 3 | 3 | English 104 | 3 | 0 |
| Inorganic | | | Rhetoric and Composition | | |
| Dairy Husbandry 101..... | 0 | 2 | Mathematics 108 | 3 | 0 |
| Judging Dairy Cattle | | | Agricultural | | |
| English 103 | 3 | 0 | Military Science 102 or 104... | 1 | 2 |
| Rhetoric and Composition | | | Textile Engineering 102..... | 0 | 2 |
| Military Science 101 or 103... | 1 | 2 | Cotton Classing | | |
| | 12 | 17 | | 12 | 15 |

SOPHOMORE YEAR.

| | | | | | |
|--------------------------------|----|----|--------------------------------|----|----|
| **Biology 207..... | 2 | 4 | Agricultural Engineering 204.. | 2 | 2 |
| Zoology | | | Farm Machinery | | |
| English 203 | 2 | 0 | **Biology 206 | 1 | 4 |
| Composition | | | Bacteriology | | |
| Entomology 201 | 2 | 2 | Chemistry 206 | 3 | 2 |
| General | | | Organic | | |
| Geology 209 | 3 | 2 | Dairy Husbandry 202..... | 2 | 2 |
| General | | | Dairying | | |
| Horticulture 201 | 2 | 2 | English 204 | 2 | 0 |
| Plant Prop. and Orchardng | | | Composition | | |
| Military Science 201 or 203... | 1 | 2 | Military Science 202 or 204... | 1 | 2 |
| *Elective | 3 | | *Elective | 3 | |
| | 15 | 12 | | 14 | 12 |

*To be chosen from the following:

| | | | | | |
|-------------------------------|---|---|------------------------------|---|---|
| Agricultural Economics 203... | 3 | 0 | Animal Husbandry 202..... | 2 | 2 |
| Agricultural Resources | | | Breed Types | | |
| Agricultural Engineering 203. | 2 | 2 | Geology 210 | 2 | 2 |
| Gas Engines | | | Agricultural | | |
| Animal Husbandry 201..... | 2 | 2 | Horticulture 202 | 2 | 2 |
| Farm Poultry | | | Vegetable Gardening | | |
| Rural Sociology 201..... | 3 | 0 | Vocational Teaching 208..... | 3 | 0 |
| Social Problems | | | Educational Psychology | | |

**Odd numbered sections will take Biology 207 the first term and Biology 206 the second term. Even numbered sections will take those subjects in the reverse order.

GROUP 2. AGRICULTURAL EDUCATION.

JUNIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|------------------------------|-----------------|-------|------------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Agronomy 301 | 3 | 2 | Agronomy 308 | 2 | 2 |
| Soils | | | Forage Crops | | |
| Chemistry 309 | 3 | 3 | Economics 306 | 3 | 0 |
| Agricultural Chemistry | | | Fundamental Principles | | |
| English 301 | 1 | 0 | English 304 | 2 | 0 |
| Argumentation | | | Argumentation | | |
| Vocational Teaching 305..... | 3 | 0 | Vocational Teaching 308..... | 3 | 0 |
| Vocational Educaiton | | | Educational Psychology | | |
| *Elective | 8 | | *Elective | 9 | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 18 | 5 | | 19 | 2 |

SENIOR YEAR.

| | | | | | |
|---------------------------------|-------|-------|--------------------------------|-------|-------|
| Agricultural Economics 411... | 2 | 2 | English 402 | 1 | 0 |
| Agricultural Economics | | | Public Speaking | | |
| English 401 | 1 | 0 | Vocational Teaching 402..... | 2 | 2 |
| Public Speaking | | | Adm. of Vocational Agriculture | | |
| Farm Management 401..... | 2 | 4 | *Elective | 16 | |
| Farm Management | | | | | |
| Vocational Teaching 401..... | 3 | 0 | | | |
| Methods of Teaching Agriculture | | | | | |
| *Elective | 9 | | | | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 17 | 6 | | 19 | 2 |

GROUP 3. AGRICULTURAL ENGINEERING.

JUNIOR YEAR.

| | | | |
|---------------------------------|-------|---------------------------------|-------|
| Agricultural Engineering 305. 3 | 4 | Agricultural Engineering 314. 2 | 4 |
| Surveying and Drainage | | Tractors | |
| Agronomy 301 3 | 2 | Agronomy 308 2 | 2 |
| Soils | | Forage Crops | |
| Chemistry 309 3 | 3 | Economics 306 3 | 0 |
| Agricultural Chemistry | | Fundamental Principles | |
| English 301 1 | 0 | English 304 2 | 0 |
| Argumentation | | Argumentation | |
| *Elective 6 | | *Elective 8 | |
| | <hr/> | | <hr/> |
| | 16 | | 17 |
| | 9 | | 6 |

SENIOR YEAR.

| | | | |
|---------------------------------|-------|----------------------------------|-------|
| Agricultural Economics 411... 2 | 2 | Agricultural Engineering 402.. 2 | 4 |
| Agricultural Economics | . | Automobiles and Trucks | |
| Agricultural Engineering 413. 2 | 3 | English 402 1 | 0 |
| Farm Buildings | | Public Speaking | |
| English 401 1 | 0 | *Elective .....15 | |
| Public Speaking | | | |
| Farm Management 401..... 2 | 4 | | |
| Farm Management | | | |
| *Elective 9 | | | |
| | <hr/> | <hr/> | <hr/> |
| | 16 | 9 | 18 |
| | | | 4 |

GROUP 4. AGRONOMY.

JUNIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|------------------------------|-----------------|-----|------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Agronomy 301 | 3 | 2 | Agronomy 308 | 2 | 2 |
| Soils | | | Forage Crops | | |
| Agronomy 305 | 2 | 2 | Agronomy 306 | 2 | 2 |
| Genetics | | | Plant Breeding | | |
| Chemistry 309 | 3 | 3 | Economics 306 | 3 | 0 |
| Agricultural Chemistry | | | Fundamental Principles | | |
| English 301 | 1 | 0 | English 304 | 2 | 0 |
| Argumentation | | | Argumentation | | |
| *Elective | 8 | | *Elective | 9 | |
| | 16 | 7 | | 18 | 4 |

SENIOR YEAR.

| | | | | | |
|------------------------------------|----|---|-----------------------|----|---|
| Agricultural Economics 411... | 2 | 2 | Agronomy 410 | 2 | 2 |
| Agricultural Economics | | | Soil Fertility | | |
| Animal Husbandry 409..... | 3 | 2 | English 402 | 1 | 0 |
| Animal Nutrition and Feeding | | | Public Speaking | | |
| English 401 | 1 | 0 | *Elective | 16 | |
| Public Speaking | | | | | |
| Farm Management 401..... | 2 | 4 | | | |
| Farm Management | | | | | |
| *Elective | 8 | | | | |
| | 16 | 8 | | 19 | 2 |

GROUP 5. ANIMAL HUSBANDRY.

JUNIOR YEAR.

| | | | | | |
|------------------------------|----|---|------------------------------|----|---|
| Agronomy 301 | 3 | 2 | Agronomy 308 | 2 | 2 |
| Soils | | | Forage Crops | | |
| Agronomy 305 | 2 | 2 | Animal Husbandry 302..... | 3 | 0 |
| Genetics | | | Animal Breeding | | |
| Animal Husbandry 303..... | 3 | 2 | Economics 306 | 3 | 0 |
| Animal Nutrition | | | Fundamental Principles | | |
| Chemistry 309 | 3 | 3 | English 304 | 2 | 0 |
| Agricultural Chemistry | | | Argumentation | | |
| English 301 | 1 | 0 | Veterinary Anatomy 302..... | 2 | 2 |
| Argumentation | | | Anatomy and Physiology | | |
| *Elective | 4 | | *Elective | 6 | |
| | 16 | 9 | | 18 | 4 |

SENIOR YEAR.

| | | | | | |
|-------------------------------|----|---|-----------------------|----|---|
| Agricultural Economics 411... | 2 | 2 | English 402 | 1 | 0 |
| Agricultural Economics | | | Public Speaking | | |
| English 401 | 1 | 0 | *Elective | 19 | |
| Public Speaking | | | | | |
| Farm Management 401..... | 2 | 4 | | | |
| Farm Management | | | | | |
| Veterinary Medicine 403..... | 3 | 2 | | | |
| Animal Diseases | | | | | |
| *Elective | 8 | | | | |
| | 16 | 8 | | 20 | 0 |

Note.—In group 5, the senior electives must include at least one course in Animal Husbandry each term.

GROUP 7. DAIRY HUSBANDRY.

JUNIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------|-----------------|-------|---------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Agronomy 301 | 3 | 2 | Agronomy 308 | 2 | 2 |
| Soils | | | Forage Crops | | |
| Agronomy 305 | 2 | 2 | Dairy Husbandry 306..... | 3 | 2 |
| Genetics | | | Butter Making and Factory | | |
| Chemistry 309 | 3 | 3 | Management | | |
| Agricultural Chemistry | | | Economics 306 | 3 | 0 |
| Dairy Husbandry 301..... | 2 | 2 | Fundamental Principles | | |
| Market Milk | | | English 304 | 2 | 0 |
| English 301 | 1 | 0 | Argumentation | | |
| Argumentation | | | *Elective | 9 | |
| *Elective | 5 | | | | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 16 | 9 | | 19 | 4 |

SENIOR YEAR.

| | | | | | |
|-------------------------------|-------|-------|--------------------------|-------|-------|
| Agricultural Economics 411... | 2 | 2 | Dairy Husbandry 406..... | 3 | 2 |
| Agricultural Economics | | | Dairy Cattle Feeding and | | |
| Animal Husbandry 401..... | 3 | 2 | Management | | |
| Animal Nutrition | | | English 402 | 1 | 0 |
| English 401 | 1 | 0 | Public Speaking | | |
| Public Speaking | | | *Elective | 15 | |
| Farm Management 401..... | 2 | 4 | | | |
| Farm Management | | | | | |
| *Elective | 8 | | | | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 16 | 8 | | 19 | 2 |

GROUP 9. HORTICULTURE.

JUNIOR YEAR.

| | | | | | |
|--------------------------------|-------|-------|----------------------------|-------|-------|
| Agronomy 301 | 3 | 2 | Agronomy 308 | 2 | 2 |
| Soils | | | Forage Crops | | |
| Agronomy 305 | 2 | 2 | Economics 306 | 3 | 0 |
| Genetics | | | Fundamental Principles | | |
| Chemistry 309 | 3 | 3 | English 304 | 2 | 0 |
| Agricultural Chemistry | | | Argumentation | | |
| English 301 | 1 | 0 | Horticulture 310 | 2 | 2 |
| Argumentation | | | Commercial Veg. Production | | |
| Horticulture 303 | 3 | 2 | *Elective | 9 | |
| Principles of Fruit Production | | | | | |
| *Elective | 4 | | | | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 16 | 9 | | 18 | 4 |

SENIOR YEAR.

| | | | | | |
|-------------------------------|-------|-------|-------------------------|-------|-------|
| Agricultural Economics 411... | 2 | 2 | English 402 | 1 | 0 |
| Agricultural Economics | | | Public Speaking | | |
| English 401 | 1 | 0 | Horticulture 404 | 2 | 2 |
| Public Speaking | | | Commercial Horticulture | | |
| Farm Management 401..... | 2 | 4 | *Elective | 16 | |
| Farm Management | | | | | |
| Horticulture 401 | 3 | 2 | | | |
| Pomology | | | | | |
| *Elective | 8 | | | | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 16 | 8 | | 19 | 2 |

GROUP 10. LANDSCAPE ART.

JUNIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|-------------------------------|-----------------|-------|--------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Agronomy 301 | 3 | 2 | Agronomy 308 | 2 | 2 |
| Soils | | | Forage Crops | | |
| Chemistry 309 | 3 | 3 | Economics 306 | 3 | 0 |
| Agricultural Chemistry | | | Fundamental Principles | | |
| English 301 | 1 | 0 | English 304 | 2 | 0 |
| Argumentation | | | Argumentation | | |
| Horticulture 307 | 2 | 2 | Horticulture 308 | 2 | 0 |
| Introduction to Landscape Art | | | History of Landscape Art | | |
| *Elective | 8 | | *Elective | 10 | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 17 | 7 | | 19 | 2 |

SENIOR YEAR.

| | | | | | |
|-------------------------------|-------|-------|------------------------|-------|-------|
| Agricultural Economics 411... | 2 | 2 | English 402 | 1 | 0 |
| Agricultural Economics | | | Public Speaking | | |
| English 401 | 1 | 0 | Horticulture 416 | 3 | 4 |
| Public Speaking | | | Landscape Design | | |
| Farm Management 401..... | 2 | 4 | *Elective | 14 | |
| Farm Management | | | | | |
| Horticulture 415 | 3 | 4 | | | |
| Landscape Design | | | | | |
| *Elective | 7 | | | | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 15 | 10 | | 18 | 4 |

GROUP 11. FARM MANAGEMENT.

JUNIOR YEAR.

| | | | | | |
|-------------------------------|-------|-------|--------------------------|-------|-------|
| Agricultural Economics 309... | 1 | 4 | Agronomy 308 | 2 | 2 |
| Accounting | | | Forage Crops | | |
| Agronomy 301 | 3 | 2 | Economics 306 | 3 | 0 |
| Soils | | | Fundamental Principles | | |
| Chemistry 309 | 3 | 3 | English 304 | 2 | 0 |
| Agricultural | | | Argumentation | | |
| English 301 | 1 | 0 | Farm Management 304..... | 1 | 4 |
| Argumentation | | | Farm Cost Accounting | | |
| Farm Management 307..... | 1 | 2 | *Elective | 9 | |
| Types of Farming | | | | | |
| *Elective | 6 | | | | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 15 | 11 | | 17 | 6 |

SENIOR YEAR.

| | | | | | |
|-------------------------------|-------|-------|--------------------------|-------|-------|
| Agricultural Economics 411... | 2 | 2 | English 402 | 1 | 0 |
| Agricultural Economics | | | Public Speaking | | |
| English 401..... | 1 | 0 | Farm Management 410..... | 1 | 6 |
| Public Speaking | | | Business Analysis | | |
| Farm Management 401..... | 2 | 4 | Farm Management 406..... | 1 | 2 |
| Farm Management | | | Advanced Problems | | |
| | | | Rural Sociology 408..... | 2 | 2 |
| | | | Rural Sociology | | |
| *Elective | 12 | | *Elective | 10 | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 17 | 6 | | 15 | 10 |

GROUP 12. RURAL SOCIOLOGY.

JUNIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|-------------------------------|-----------------|-------|--------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Agricultural Economics 301... | 2 | 2 | Agronomy 308 | 2 | 2 |
| Agricultural Economics | | | Forage Crops | | |
| Agricultural Economics 305... | 2 | 4 | Economics 306 | 3 | 0 |
| Statistics | | | Fundamental Principles | | |
| Chemistry 309 | 3 | 3 | English 304 | 2 | 0 |
| Agricultural Chemistry | | | Argumentation | | |
| English 303 | 2 | 0 | History 306 | 3 | 0 |
| Argumentation | | | Citizenship | | |
| Rural Sociology 311..... | 3 | 0 | Rural Sociology 312..... | 3 | 0 |
| Social Psychology | | | General Sociology | | |
| *Elective | 4 | | *Elective | 6 | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 16 | 9 | | 19 | 2 |

SENIOR YEAR.

| | | | | | |
|--------------------------|-------|-------|--------------------------|-------|-------|
| English 401 | 1 | 0 | English 402 | 1 | 0 |
| Public Speaking | | | Public Speaking | | |
| Farm Management 401..... | 2 | 4 | History 412 | 3 | 0 |
| Farm Management | | | The Outline of History | | |
| History 411 | 3 | 0 | Rural Sociology 416..... | 2 | 2 |
| The Outline of History | | | Agricultural Journalism | | |
| Rural Sociology 407..... | 2 | 2 | *Elective | 11 | |
| Rural Sociology | | | | | |
| Rural Sociology 415..... | 2 | 2 | | | |
| Agricultural Journalism | | | | | |
| *Elective | 6 | | | | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 17 | 8 | | 19 | 2 |

Note.—In Group 12 the Junior and Senior Electives must include at least 6 hours of Rural Sociology courses.

*JUNIOR AND SENIOR ELECTIVES.

In all groups the junior and senior electives are to be chosen in departments offering courses in the School of Agriculture. These electives must be chosen from courses numbered above 300.

The following courses are also available as electives: Veterinary Anatomy 111, 112, 211, 213; Veterinary Pathology 242; Veterinary Physiology and Pharmacology 121, 122, 221, 222.

Note.—For the session 1923-24, Agronomy 308 will be replaced by Agronomy 302 (3-2).

XIV.—COURSE IN AGRICULTURAL ADMINISTRATION.

FRESHMAN YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------|-----------------|-----|--------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Agricultural Economics 101... | 3 | 0 | Agronomy 102 | 3 | 2 |
| Agricultural Resources | | | Field Crops | | |
| Biology 101 | 2 | 4 | Biology 102 | 2 | 4 |
| General Botany | | | General Botany | | |
| Chemistry 101 | 3 | 3 | Chemistry 102 | 3 | 3 |
| Inorganic | | | Inorganic | | |
| English 103 | 3 | 0 | Drawing 122 | 0 | 3 |
| Rhetoric and Composition | | | Mechanical Drawing | | |
| Mathematics 101 | 3 | 0 | English 104 | 3 | 0 |
| Algebra | | | Rhetoric and Composition | | |
| Military Science 101 or 103... | 1 | 2 | Mathematics 102 | 3 | 0 |
| | | | Algebra | | |
| | | | Military Science 102 or 104... | 1 | 2 |
| | — | — | | — | — |
| | 15 | 9 | | 15 | 14 |

SOPHOMORE YEAR.

| | | | | | |
|--------------------------------|----|---|--------------------------------|----|---|
| Agricultural Economics 201... | 1 | 4 | Agricultural Economics 202... | 1 | 4 |
| Accounting | | | Accounting | | |
| Economics 203 | 3 | 0 | Economics 204 | 3 | 0 |
| Principles | | | Principles | | |
| English 203 | 2 | 0 | English 204 | 2 | 0 |
| Composition | | | Composition | | |
| Military Science 201 or 203... | 1 | 2 | Military Science 202 or 204... | 1 | 2 |
| *Elective | 10 | | *Elective | 11 | |
| | — | — | | — | — |
| | 17 | 6 | | 18 | 6 |

JUNIOR YEAR.

(Effective September, 1923).

| | | | | | |
|-------------------------------|----|---|-------------------------------|----|---|
| Agricultural Economics 305... | 2 | 4 | Agricultural Economics 312... | 2 | 2 |
| Statistics | | | Agricultural Economics | | |
| Economics 311 | 3 | 0 | Economics 316 | 3 | 0 |
| Money and Banking | | | Business Law | | |
| English 301 | 1 | 0 | English 304 | 2 | 0 |
| Argumentation | | | Argumentation | | |
| *Elective | 12 | | *Elective | 12 | |
| | — | — | | — | — |
| | 18 | 4 | | 19 | 2 |

SENIOR YEAR.

(Effective September, 1924).

| | | | | | |
|-------------------------------|----|---|-------------------------------|----|---|
| Agricultural Economics 401... | 3 | 0 | Agricultural Economics 402... | 3 | 0 |
| Marketing | | | Property and Contracts | | |
| English 401 | 1 | 0 | Farm Management 402..... | 2 | 4 |
| Public Speaking | | | Farm Management | | |
| Rural Sociology 407..... | 2 | 2 | English 402 | 1 | 0 |
| Rural Sociology | | | Public Speaking | | |
| *Elective | 13 | | *Elective | 12 | |
| | — | — | | — | — |
| | 19 | 2 | | 18 | 4 |

***ELECTIVES.**

In addition to the required work listed above, the student must take electives sufficient to make a total of 160 term-hours before graduation. These electives must be chosen subject to the restrictions stated below.

1. A minimum of fifteen (15) term-hours from the following:

Agricultural Economics 303, 403, 407, 308, 408, 410, 412, 414.

Mathematics 103, 203, 207, 104, 106, 204, 208.

2. A minimum of twelve (12) term-hours in technical agriculture to be taken in the departments of Agricultural Engineering, Agronomy, Animal Husbandry, Dairy Husbandry, Horticulture.

SENIOR YEAR.

(For the Session 1923-24.)

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|-------------------------------|-----------------|-------|--------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Agricultural Economics 415... | 2 | 4 | Economics 408 | 3 | 0 |
| Statistics | | | Corporation Finance | | |
| Economics 411 | 3 | 0 | English 404 | 3 | 0 |
| Money and Banking | | | Public Speaking | | |
| English 401 | 1 | 0 | Farm Management 402..... | 3 | 4 |
| Public Speaking | | | Farm Management | | |
| Rural Sociology 407..... | 3 | 0 | Rural Sociology 404..... | 2 | 2 |
| Rural Sociology | | | Rural Organization | | |
| Elective | 9 | | Elective | 6 | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 18 | 4 | | 17 | 6 |

XII.—COURSE IN AGRICULTURAL EDUCATION.

FRESHMAN YEAR.

(See page 102.)

SOPHOMORE YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------|-----------------|-----|---------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Animal Husbandry 201..... | 2 | 2 | Agricultural Engineering 206... | 2 | 4 |
| Poultry | | | Gas Engines | | |
| Biology 207 | 2 | 4 | Biology 206 | 1 | 4 |
| Zoology | | | Bacteriology | | |
| English 203 | 2 | 0 | Chemistry 206 | 3 | 2 |
| Composition | | | Organic | | |
| Entomology 201 | 2 | 2 | Dairy Husbandry 202 | 2 | 2 |
| General | | | Dairying | | |
| Horticulture 201 | 2 | 2 | English 204 | 2 | 0 |
| Plant Prop. and Orchardng | | | Composition | | |
| Military Science 201 or 203... | 1 | 2 | Military Science 202 or 204... | 1 | 2 |
| *Elective | 3 | | *Elective | 3 | |
| | 14 | 12 | | 14 | 14 |

*To be chosen from the following:

| | | | | | |
|-------------------------------|---|---|---------------------------|---|---|
| Agricultural Economics 203... | 3 | 0 | Animal Husbandry 202..... | 2 | 2 |
| Agricultural Resources | | | Breed Types | | |
| Drawing 213 | 0 | 3 | History 206 | 3 | 0 |
| Mechanical Drawing | | | Citizenship | | |
| History 205 | 3 | 0 | Horticulture 202 | 2 | 2 |
| Citizenship | | | Vegetable Gardening | | |
| Mechanical Engineering 211.. | 0 | 3 | | | |
| Carpentry and Cabinet Making | | | | | |
| Rural Sociology 201..... | 3 | 0 | | | |
| Social Problems | | | | | |

JUNIOR YEAR.

| | | | | | |
|--------------------------------|----|----|--------------------------------|----|---|
| Agricultural Engineering 321.. | 0 | 3 | Agricultural Engineering 322.. | 0 | 3 |
| Farm Shop | | | Farm Shop | | |
| Agronomy 301 | 3 | 2 | Agronomy 308 | 2 | 2 |
| Soils | | | Forage Crops | | |
| Agronomy 305 | 2 | 2 | Economics 306 | 3 | 0 |
| Genetics | | | Fundamental Principles | | |
| Chemistry 309 | 3 | 3 | English 302 | 1 | 0 |
| Agricultural Chemistry | | | Argumentation | | |
| English 301 | 1 | 0 | Veterinary Medicine 306..... | 3 | 2 |
| Argumentation | | | Animal Diseases | | |
| Vocational Teaching 305..... | 3 | 0 | Vocational Teaching 308..... | 3 | 0 |
| Vocational Education | | | Educational Psychology | | |
| Elective | 4 | | Elective | 4 | |
| | 16 | 10 | | 16 | 7 |

SENIOR YEAR.

| | | | | | |
|-------------------------------|----|---|------------------------------|----|---|
| Agricultural Economics 411... | 2 | 2 | Animal Husbandry 416..... | 3 | 2 |
| Agricultural Economics | | | Live Stock Management | | |
| Animal Husbandry 409..... | 3 | 2 | English 402 | 1 | 0 |
| Animal Nutrition and Feeding | | | Public Speaking | | |
| English 401 | 1 | 0 | Vocational Teaching 410..... | 3 | 0 |
| Public Speaking | | | Supervised Teaching | | |
| Farm Management 401..... | 2 | 4 | Vocational Teaching 402..... | 3 | 0 |
| Farm Management | | | Adm. of Voca. Agriculture | | |
| Vocational Teaching 401..... | 3 | 0 | Elective | 10 | |
| Principles of Teaching | | | | | |
| Elective | 7 | | | | |
| | 18 | 8 | | 20 | 2 |

C.—TWO-YEAR COURSE IN AGRICULTURE.

FIRST YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------|-----------------|-----|------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Agricultural Engineering 201.. | 2 | 2 | Agronomy 30 | 3 | 2 |
| Farm Machinery | | | Elementary Crop Production | | |
| Agronomy 25 | 3 | 2 | Animal Husbandry 102..... | 0 | 4 |
| Soils | | | Market Types | | |
| Animal Husbandry 101..... | 0 | 4 | English 32 | 3 | 0 |
| Market Types | | | Practical Composition | | |
| Dairy Husbandry 23..... | 3 | 2 | Entomology 22 | 2 | 2 |
| Farm Dairying | | | Elementary Econ. Ent. | | |
| English 31 | 3 | 0 | Military Science 12..... | 1 | 2 |
| Practical Composition | | | Textile Engineering 102..... | 0 | 2 |
| Horticulture 21 | 2 | 2 | Cotton Classing | | |
| Plant Culture and Propagation | | | *Elective | 6 | |
| Military Science 11..... | 1 | 2 | | | |
| Textile Engineering 101..... | 0 | 2 | | | |
| Cotton Classing | | | | | |
| | — | — | | — | — |
| | 14 | 16 | | 15 | 12 |

*To be chosen from the following:

| | | | | | |
|--------------------------------|---|---|---------------------------|---|---|
| Agricultural Engineering 206.. | 2 | 4 | Animal Husbandry 106..... | 2 | 2 |
| Gas Engines | | | Farm Poultry | | |
| Horticulture 202 | 2 | 2 | | | |
| Vegetable Gardening | | | | | |

SECOND YEAR.

Eighteen term-hours each term from the following in addition to Military Science:

| | | | | | |
|--------------------------------|---|---|--------------------------------|---|---|
| Agricultural Engineering 305.. | 3 | 4 | Agricultural Engineering 302.. | 0 | 4 |
| Surveying and Drainage | | | Repair of Farm Machinery | | |
| Agricultural Engineering 203.. | 2 | 2 | Agricultural Engineering 314.. | 2 | 4 |
| Gas Engines | | | Tractors | | |
| Agricultural Engineering 321.. | 0 | 3 | Agricultural Engineering 322.. | 0 | 3 |
| Farm Shop | | | Farm Shop | | |
| Agricultural Engineering 409.. | 1 | 2 | Agricultural Engineering 402.. | 2 | 4 |
| Farm Concrete | | | Automobiles and Motor Trucks | | |
| Agronomy 55 | 2 | 2 | Agricultural Engineering 316.. | 2 | 2 |
| Elementary Plant Breeding | | | Irrigation | | |
| Animal Husbandry 55..... | 2 | 2 | Animal Husbandry 52..... | 2 | 2 |
| Drawing 61 | 0 | 3 | Breeding | | |
| Mechanical | | | Animal Husbandry 58..... | 2 | 2 |
| English 103 | 3 | 0 | Live Stock Management | | |
| Rhetoric and Composition | | | Animal Husbandry 202..... | 2 | 2 |
| Horticulture 53 | 3 | 2 | Breed Types | | |
| Tree and Vine Fruits | | | English 104 | 3 | 0 |
| Military Science 51..... | 1 | 2 | Rhetoric and Composition | | |
| | | | Entomology 56 | 2 | 2 |
| | | | Apiculture | | |
| | | | Farm Management 52..... | 2 | 4 |
| | | | Elementary Farm Management | | |
| | | | Horticulture 304 | 1 | 4 |
| | | | Nut Culture | | |
| | | | Military Science 52..... | 1 | 2 |
| | | | Veterinary Anatomy 52..... | 3 | 2 |
| | | | Animal Diseases | | |

M.—TWO-YEAR COURSE IN AGRICULTURAL ENGINEERING.

To be discontinued after September, 1924.

SECOND YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------|-----------------|-------|--------------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Agricultural Engineering 305.. | 3 | 4 | Agricultural Engineering 302.. | 0 | 4 |
| Surveying and Drainage | | | Repair of Farm Machinery | | |
| Agricultural Engineering 413.. | 2 | 4 | Agricultural Engineering 402.. | 2 | 4 |
| Farm Buildings | | | Automobiles and Motor Trucks | | |
| Agricultural Engineering 317.. | 2 | 4 | Agricultural Engineering 414.. | 0 | 4 |
| Tractors | | | Farm Buildings | | |
| Military Science 51..... | 1 | 2 | Military Science 52..... | 1 | 2 |
| *Elective | 6 | | *Elective | 9 | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 14 | 14 | | 12 | 14 |

*To be chosen from subjects listed in Course C.

COURSES IN ENGINEERING.

(The curricula for all Engineering courses are identical in the Freshman year.)

FRESHMAN YEAR.

| | | | | | |
|---------------------------------|-------|-------|---------------------------------|-------|-------|
| Chemistry 101 | 3 | 3 | Chemistry 102 | 3 | 3 |
| Inorganic | | | Inorganic | | |
| Drawing 101 | 0 | 3 | Drawing 102 | 0 | 3 |
| Mechanical | | | Mechanical | | |
| Drawing 103 | 2 | 0 | Drawing 104 | 2 | 0 |
| Descriptive Geometry | | | Descriptive Geometry | | |
| Drawing 105 | 0 | 1 | Drawing 106 | 0 | 1 |
| Freehand | | | Freehand | | |
| English 105 | 4 | 0 | English 106 | 4 | 0 |
| Rhetoric and Composition | | | Rhetoric and Composition | | |
| Mathematics 101 | 3 | 0 | Mathematics 102 | 3 | 0 |
| Algebra | | | Algebra | | |
| Mathematics 103 | 3 | 0 | Mathematics 104 | 3 | 0 |
| Trigonometry | | | Analytics | | |
| Mechanical Engineering 103... 0 | 3 | | Mechanical Engineering 104... 0 | 3 | |
| Woodwork | | | Forging | | |
| Mil. Sci. 101, 103 or 105..... | 1 | 2 | Mil. Sci. 102, 104 or 106..... | 1 | 2 |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 16 | 12 | | 16 | 12 |

XV.—COURSE IN AGRICULTURAL ENGINEERING.

FRESHMAN YEAR.

See page 112.

SOPHOMORE YEAR.

| Second Term. | Hours per week. | | First Term. | Hours per week. | |
|-----------------------------------|-----------------|-----|-----------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Agricultural Engineering 211.. | 2 | 4 | Agricultural Engineering 214.. | 2 | 4 |
| Gas Engines | | | Tractors | | |
| English 203 | 2 | 0 | Civil Engineering 204..... | 4 | 0 |
| Composition | | | Analytic Mechanics | | |
| Geology 209 | 3 | 2 | English 204 | 2 | 0 |
| General | | | Composition | | |
| Mathematics 203 | 5 | 0 | Mathematics 204 | 5 | 0 |
| Calculus | | | Calculus | | |
| Mil. Science 201, 203, 207 or 209 | 1 | 2 | Mil. Science 202, 204, 208 or 210 | 1 | 2 |
| Physics 203 | 3 | 3 | Physics 204 | 3 | 3 |
| General | | | General | | |
| | 16 | 11 | | 17 | 9 |

JUNIOR YEAR.

| | | | | | |
|--------------------------------|----|----|--------------------------------|----|----|
| Agronomy 301 | 3 | 2 | Agricultural Engineering 320.. | 2 | 4 |
| Soils | | | Farm Machinery | | |
| †Animal Husbandry 305..... | 0 | 4 | Agronomy 302 | 2 | 2 |
| Market Types | | | Farm Crops | | |
| Civil Engineering 323..... | 3 | 5 | †Animal Husbandry 306..... | 0 | 4 |
| Plane Surveying | | | Market Types | | |
| English 303 | 2 | 0 | Civil Engineering 332..... | 3 | 0 |
| Argumentation | | | Mechanics of Materials | | |
| Electrical Engineering 305.... | 3 | 3 | Civil Engineering 328..... | 0 | 2 |
| Electrical Machinery | | | Materials Laboratory | | |
| Mechanical Engineering 309.... | 0 | 3 | History 306 | 3 | 0 |
| Machine Shop | | | Citizenship | | |
| *Elective | 3 | | Horticulture 312 | 2 | 2 |
| | 14 | 17 | Vegetable Gardening | | |
| | | | *Elective | 3 | |
| | | | | 15 | 14 |

†Not required of the Class of 1925.

*To be chosen from List B, page 125.

SUMMER WORK.

Civil Engineering 300, Field Practice, three weeks.

SENIOR YEAR.

| | | | | | |
|--------------------------------|----|---|--------------------------------|----|----|
| Agricultural Engineering 413.. | 2 | 3 | Agricultural Engineering 410.. | 2 | 0 |
| Farm Buildings | | | Irrigation | | |
| Civil Engineering 441..... | 3 | 2 | Agricultural Engineering 416.. | 2 | 4 |
| Hydraulics | | | Drainage | | |
| Civil Engineering 407..... | 3 | 0 | Agricultural Engineering 418.. | 2 | 4 |
| Roads and Pavement | | | Designing of Farm Structures | | |
| Economics 403 | 3 | 0 | Agricultural Engineering 402.. | 2 | 4 |
| Fundamental Principles | | | Automobiles and Trucks | | |
| English 401 | 1 | 0 | Civil Engineering 410..... | 2 | 0 |
| Public Speaking | | | Contracts and Specifications | | |
| Farm Management 401..... | 2 | 4 | English 402 | 1 | 0 |
| Farm Management | | | Public Speaking | | |
| *Elective | 3 | | *Elective | 3 | |
| | 17 | 9 | | 14 | 12 |

*To be chosen from List C, page 125.

IX.—COURSES IN ARCHITECTURE.

GROUP 1. GENERAL COURSE.

FRESHMAN YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------|-----------------|-----|--------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Architecture 101 | 0 | 4 | Architecture 102 | 0 | 4 |
| Architectural Drawing | | | Elements | | |
| Chemistry 101 | 3 | 3 | Architecture 104 | 2 | 0 |
| Inorganic | | | Shadows and Perspective | | |
| Drawing 103 | 2 | 0 | Chemistry 102 | 3 | 3 |
| Descriptive Geometry | | | Inorganic | | |
| Drawing 109 | 0 | 3 | Drawing 110 | 0 | 3 |
| Freehand | | | Freehand | | |
| English 105 | 4 | 0 | English 106 | 4 | 0 |
| Rhetoric and Composition | | | Rhetoric and Composition | | |
| Mathematics 101 | 3 | 0 | Mathematics 102 | 3 | 0 |
| Algebra | | | Algebra | | |
| Mathematics 103 | 3 | 0 | Mathematics 104 | 3 | 0 |
| Trigonometry | | | Analytics | | |
| Mil. Sci. 101, 103 or 105..... | 1 | 2 | Mil. Sci. 102, 104 or 106..... | 1 | 2 |
| | — | — | | — | — |
| | 16 | 12 | | 16 | 12 |

SOPHOMORE YEAR.

| | | | | | |
|--------------------------------|----|----|--------------------------------|----|----|
| Architecture 201 | 0 | 10 | Architecture 202 | 0 | 14 |
| Design | | | Design | | |
| Architecture 209 | 1 | 0 | Architecture 208 | 2 | 0 |
| Principles of Design | | | History | | |
| Architecture 207 | 2 | 0 | Architecture 218 | 3 | 0 |
| History | | | Mechanics of Materials | | |
| Architecture 217 | 3 | 0 | Drawing 210 | 0 | 4 |
| Elements of Mechanics | | | Freehand | | |
| Drawing 209 | 0 | 4 | English 204 | 2 | 0 |
| Freehand | | | Composition | | |
| English 203 | 2 | 0 | Physics 204 | 3 | 3 |
| Composition | | | General | | |
| Physics 203 | 3 | 3 | Military Science 203 or 204... | 1 | 2 |
| General | | | | | |
| Military Science 201 or 203... | 1 | 2 | | | |
| | — | — | | — | — |
| | 12 | 19 | | 11 | 23 |

SUMMER WORK.

Architecture 300, Working Drawings, three weeks.

JUNIOR YEAR.

| | | | | | |
|--------------------------|----|----|--------------------------|----|----|
| Architecture 301 | 0 | 15 | Architecture 302 | 0 | 15 |
| Design | | | Design | | |
| Architecture 309 | 2 | 0 | Architecture 316 | 3 | 0 |
| History | | | Mechanical Equipment | | |
| Architecture 317 | 2 | 3 | Architecture 318 | 3 | 3 |
| Framed Construction | | | Reinforced Concrete | | |
| Drawing 309 | 0 | 4 | Drawing 310 | 0 | 4 |
| Freehand | | | Water Color | | |
| English 301 | 2 | 0 | Modern Language 312..... | 3 | 0 |
| Argumentation | | | French | | |
| Modern Language 311..... | 3 | 0 | *Elective | 3 | |
| French | | | | | |
| *Elective | 3 | | | | |
| | — | — | | — | — |
| | 12 | 22 | | 12 | 22 |

*To be chosen from List B, page 125.

Or History 306, Citizenship. (Second term).

ARCHITECTURE.

115

SUMMER WORK.

(Effective, Session of 1924-25.)

Architecture 400, Working Drawings, three weeks.

SENIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------|-----------------|-----|--------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Architecture 401 | 0 | 18 | Architecture 402 | 0 | 20 |
| Design | | | Design | | |
| Architecture 407 | 2 | 0 | Architecture 406 | 2 | 0 |
| History of Art | | | Professional Practice | | |
| Drawing 409 | 0 | 4 | Architecture 414 | 1 | 0 |
| Rendering | | | Modern Architecture | | |
| Economics 403 | 3 | 0 | Drawing 410 | 0 | 4 |
| Fundamental Principles | | | Rendering | | |
| English 401 | 1 | 0 | English 402 | 1 | 0 |
| Public Speaking | | | Public Speaking | | |
| Modern Language 421..... | 3 | 0 | Modern Language 422..... | 3 | 0 |
| French | | | French | | |
| *Elective | 3 | | *Elective | 3 | |
| | 12 | 22 | | 10 | 24 |

*To be chosen from List B, page 125; or Economics 408.

GROUP 2. STRUCTURAL COURSE.

FRESHMAN YEAR.

Same as in Group 1.

SOPHOMORE YEAR.

| | | | | | |
|--------------------------------|----|----|--------------------------------|----|---|
| Architecture 201 | 0 | 10 | Architecture 202a | 0 | 4 |
| Design | | | Design | | |
| Architecture 207 | 2 | 0 | Architecture 208 | 2 | 0 |
| History | | | History | | |
| Drawing 209 | 0 | 4 | Civil Engineering 204..... | 4 | 0 |
| Freehand | | | Analytic Mechanics | | |
| Mathematics 203 | 5 | 0 | Mathematics 204 | 5 | 0 |
| Calculus | | | Calculus | | |
| English 203 | 2 | 0 | English 204 | 2 | 0 |
| Composition | | | Composition | | |
| Physics 203 | 3 | 3 | Physics 204 | 3 | 3 |
| General | | | General | | |
| Military Science 201 or 203... | 1 | 2 | Military Science 201 or 203... | 1 | 2 |
| | 13 | 19 | | 17 | 9 |

SUMMER WORK.

Architecture 300, Working Drawings, three weeks.

JUNIOR YEAR.

| | | | | | |
|-------------------------------|----|----|----------------------------|----|----|
| Architecture 311 | 0 | 12 | Architecture 312 | 0 | 12 |
| Design | | | Design | | |
| Architecture 309 | 2 | 0 | Architecture 316 | 3 | 0 |
| History | | | Mechanical Equipment | | |
| Civil Engineering 305..... | 3 | 0 | Civil Engineering 330..... | 3 | 3 |
| Mechanics of Materials | | | Framed Structures | | |
| Civil Engineering 315..... | 0 | 2 | Civil Engineering 326..... | 1 | 3 |
| Materials Laboratory | | | Surveying | | |
| Drawing 309 | 0 | 4 | Drawing 310 | 0 | 4 |
| Freehand | | | Water Color | | |
| English 303 | 2 | 0 | *Electice | 3 | |
| Argumentation | | | | | |
| Mechanical Engineering 325... | 2 | 0 | | | |
| Elementary Steam Eng. | | | | | |
| *Elective | 3 | | | | |
| | 12 | 18 | | 10 | 22 |

*To be chosen from List B, page 125; or History 306.

SUMMER WORK.

(Effective 1924-25.)

Architecture 400, Working Drawings, three weeks.

SENIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|-----------------------------|-----------------|-------|--------------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Architecture 411 | 0 | 14 | Architecture 412 | 0 | 14 |
| Structural Design | | | Structural Design | | |
| Architecture 407 | 2 | 0 | Architecture 414 | 1 | 0 |
| History of Art | | | Modern Architecture | | |
| Civil Engineering 413..... | 2 | 0 | Architecture 406 | 2 | 0 |
| Elements of Reinf. Concrete | | | Professional Practice | | |
| Economics 403 | 3 | 0 | Civil Engineering 414..... | 2 | 3 |
| Fundamental Principles | | | Reinforced Concrete Design | | |
| English 401 | 1 | 0 | Electrical Engineering 436.... | 3 | 0 |
| Public Speaking | | | Wiring and Lighting | | |
| Geology 419 | 3 | 2 | English 402 | 1 | 0 |
| General | | | Public Speaking | | |
| *Elective | 3 | | *Elective | 3 | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 14 | 16 | | 12 | 17 |

*To be chosen from List C, page 125; or Economics 408.

VIII.—COURSE IN CHEMICAL ENGINEERING.

FRESHMAN YEAR.

See page 112.

SOPHOMORE YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------|-----------------|-----|--------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Chemistry 205 | 2 | 8 | Chemical Engineering 202.... | 2 | 8 |
| Qualitative Analysis | | | Quantitative Analysis | | |
| Drawing 201 | 0 | 3 | Drawing 202 | 0 | 3 |
| Mechanical | | | Mechanical | | |
| English 203 | 2 | 0 | English 204 | 2 | 0 |
| Composition | | | Composition | | |
| Mathematics 205 | 5 | 0 | Mechanical Engineering 206... | 4 | 0 |
| Calculus | | | Steam Engineering | | |
| Military Science 201 or 203... | 1 | 2 | Mechanical Engineering 218... | 0 | 3 |
| Physics 203 | 3 | 3 | Engineering Laboratory | | |
| General | | | Military Science 202 or 204... | 1 | 2 |
| | | | Physics 204 | 3 | 3 |
| | | | General | | |
| | 13 | 16 | | 12 | 19 |

JUNIOR YEAR.

| | | | | | |
|--------------------------------------|----|----|------------------------------|----|----|
| Chemical Engineering 301.... | 2 | 8 | Chemical Engineering 302.... | 2 | 8 |
| Advanced Quantitative Analysis | | | Technical Analysis | | |
| Chemistry 301 | 3 | 4 | Chemistry 302 | 3 | 4 |
| Organic | | | Organic | | |
| Electrical Engineering 305.... | 3 | 3 | Geology 306 | 3 | 3 |
| Electrical Machinery | | | General | | |
| English 303 | 2 | 0 | History 306 | 3 | 0 |
| Argumentation | | | Citizenship | | |
| *Elective | 3 | | *Elective | 3 | |
| | 13 | 15 | | 15 | 12 |

*To be chosen from the following:

| | | | | | |
|------------------------------|---|---|------------------------------|---|---|
| Civil Engineering 311..... | 3 | 2 | Civil Engineering 326..... | 1 | 3 |
| Hydraulics | | | Plane Surveying | | |
| One subject from List B..... | 3 | 0 | One subject from List B..... | 3 | 0 |

SENIOR YEAR.

| | | | | | |
|------------------------------|----|---|------------------------------|----|---|
| Chemical Engineering 405.... | 3 | 0 | Chemical Engineering 418.... | 1 | 8 |
| Chemical Summary | | | Physical Chemistry | | |
| Chemical Engineering 411.... | 5 | 0 | Chemistry 438 | 1 | 0 |
| Physical Chemistry | | | Seminar | | |
| Chemical Engineering 415.... | 3 | 6 | English 402 | 1 | 0 |
| Industrial Chemistry | | | Public Speaking | | |
| Economics 403 | 3 | 0 | Elective (Technical) | 11 | |
| Fundamental Principles | | | *Elective | 3 | |
| English 401 | 1 | 0 | | | |
| Public Speaking | | | | | |
| *Elective | 3 | | | | |
| | 18 | 6 | | 17 | 8 |

*To be chosen from List C, page 125.

Recommended Technical Electives:

| | | | | | |
|------------------------------|---|---|------------------------------------|---|---|
| Biology 418 | 2 | 4 | Civil Engineering 326..... | 1 | 3 |
| Water Bacteriology | | | Plane Surveying | | |
| Chemical Engineering 416.... | 3 | 4 | Civil Engineering 410..... | 2 | 0 |
| Chemical Technology | | | Contracts and Specifications | | |
| Chemical Engineering 414.... | 3 | 4 | Economics 316 | 3 | 0 |
| Sanitary Chemistry | | | Business Law | | |
| Chemistry 428 | 2 | 4 | | | |
| Advanced Organic | | | | | |

Note. To those students desiring to do so, an opportunity will be given to specialize in the study of the cotton seed oil industry or in petroleum technology.

*For Lists B and C, see page 125.

IV.—COURSE IN CIVIL ENGINEERING.

FRESHMAN YEAR.

See page 112.

SOPHOMORE YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------|-----------------|-----|--------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Civil Engineering 201..... | 3 | 5 | Civil Engineering 202..... | 2 | 3 |
| Surveying | | | Railroad Engineering | | |
| Drawing 201a | 0 | 2 | Civil Engineering 204..... | 4 | 0 |
| Mechanical | | | Analytic Mechanics | | |
| English 203 | 2 | 0 | Drawing 202a | 0 | 2 |
| Composition | | | Mechanical | | |
| Mathematics 203 | 5 | 0 | English 204 | 2 | 0 |
| Calculus | | | Composition | | |
| Mechanical Engineering 205.... | 2 | 0 | Mathematics 204 | 5 | 0 |
| Elementary Steam Engineering | | | Calculus | | |
| Military Science 201 or 203... | 1 | 2 | Military Science 202 or 204... | 1 | 2 |
| Physics 203 | 3 | 3 | Physics 204 | 3 | 3 |
| General | | | General | | |
| | — | — | | — | — |
| | 16 | 12 | | 17 | 10 |

SUMMER WORK.

Civil Engineering 300, Field Practice, three weeks.

JUNIOR YEAR.

| | | | | | |
|--------------------------------|----|----|----------------------------|----|---|
| Civil Engineering 303..... | 2 | 3 | Civil Engineering 304..... | 2 | 0 |
| Railroad Engineering | | | Railroad Construction | | |
| Civil Engineering 305..... | 3 | 0 | Civil Engineering 306..... | 3 | 0 |
| Mechanics of Materials | | | Masonry | | |
| Civil Engineering 311..... | 3 | 2 | Civil Engineering 320..... | 0 | 2 |
| Hydraulics | | | Topographic Drawing | | |
| Civil Engineering 315..... | 0 | 2 | Civil Engineering 330..... | 3 | 3 |
| Materials Laboratory | | | Framed Structures | | |
| Electrical Engineering 305.... | 3 | 3 | Geology 306 | 3 | 3 |
| Electrical Machinery | | | General | | |
| English 303 | 2 | 0 | History 306 | 3 | 0 |
| Argumentation | | | Citizenship | | |
| *Elective | 3 | | *Elective | 3 | |
| | — | — | | — | — |
| | 16 | 10 | | 17 | 8 |

*To be chosen from List B, page 125.

SUMMER WORK.

Civil Engineering 400, Field Practice, three weeks.

GROUP 1. GENERAL CIVIL ENGINEERING.

SENIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|----------------------------|-----------------|-----|------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Civil Engineering 401..... | 0 | 3 | Civil Engineering 404..... | 0 | 5 |
| Railroad Drafting | | | Bridge Design | | |
| Civil Engineering 403..... | 3 | 9 | Civil Engineering 406..... | 0 | 4 |
| Roofs and Bridges | | | Materials of Construction | | |
| Civil Engineering 407..... | 3 | 0 | Civil Engineering 410..... | 2 | 0 |
| Roads and Pavements | | | Contracts and Specifications | | |
| Civil Engineering 413..... | 2 | 0 | Civil Engineering 414..... | 2 | 3 |
| El. of Reinforced Concrete | | | Reinforced Concrete Design | | |
| Economics 403 | 3 | 0 | Civil Engineering 434..... | 2 | 0 |
| Fundamental Principles | | | Irrigation and Drainage | | |
| English 401 | 1 | 0 | Civil Engineering 440..... | 4 | 2 |
| Public Speaking | | | Sanitary Engineering | | |
| *Elective | 3 | | English 402 | 1 | 0 |
| | | | Public Speaking | | |
| | | | *Elective | 3 | |
| | — | — | | — | — |
| | 15 | 12 | | 14 | 14 |

*To be chosen from the following:

| | | | | | |
|------------------------------|---|---|------------------------------|---|---|
| Geology 409 | 2 | 3 | Biology 418 | 2 | 4 |
| Engineering Geology | | | Water Bacteriology | | |
| Civil Engineering 429..... | 3 | 0 | One subject from List C..... | 3 | |
| Highway Laws and Economics | | | | | |
| One subject from List C..... | 3 | | | | |

GROUP 2. HIGHWAY AND MUNICIPAL ENGINEERING.

| | | | | | |
|------------------------------|----|----|------------------------------|----|----|
| Civil Engineering 401..... | 0 | 3 | Biology 418 | 2 | 4 |
| Railroad Drafting | | | Water Bacteriology | | |
| Civil Engineering 413..... | 2 | 0 | Civil Engineering 410..... | 2 | 0 |
| El. of Reinforced Concrete | | | Contracts and Specifications | | |
| Civil Engineering 415..... | 4 | 0 | Civil Engineering 418..... | 1 | 3 |
| High. Const. and Maintenance | | | Highway Materials | | |
| Civil Engineering 417..... | 1 | 3 | Civil Engineering 426..... | 1 | 5 |
| Highway Materials | | | Highway Bridges and Culverts | | |
| Civil Engineering 423..... | 2 | 4 | Civil Engineering 440..... | 4 | 2 |
| Bridge Design | | | Sanitary Engineering | | |
| Economics 403 | 3 | 0 | English 402 | 1 | 0 |
| Fundamental Principles | | | Public Speaking | | |
| English 401 | 1 | 0 | *Elective | 3 | |
| Public Speaking | | | | | |
| *Elective | 3 | | | | |
| | — | — | | — | — |
| | 16 | 10 | | 14 | 14 |

*To be chosen from the following:

| | | | | | |
|------------------------------|---|---|------------------------------|---|---|
| Civil Engineering 429..... | 3 | 0 | Chemistry 410 | 1 | 3 |
| Highway Laws and Economics | | | Water Treatment | | |
| Geology 409 | 2 | 2 | Economics 408 | 3 | 0 |
| Engineering Geology | | | Corporation Finance | | |
| One subject from List C..... | 3 | | One subject from List C..... | 3 | |

*For List C, see page 125.

V.—COURSE IN ELECTRICAL ENGINEERING.

FRESHMAN YEAR.

See page 112.

SOPHOMORE YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------|-----------------|-----|--------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Drawing 201a | 0 | 2 | Civil Engineering 206..... | 1 | 3 |
| Mechanical | | | Surveying | | |
| Electrical Engineering 201.... | 4 | 4 | Drawing 202a | 0 | 2 |
| Electricity and Magnetism | | | Mechanical | | |
| English 203 | 2 | 0 | Electrical Engineering 202.... | 2 | 4 |
| Composition | | | Elementary | | |
| Mathematics 203 | 5 | 0 | English 204 | 2 | 0 |
| Calculus | | | Composition | | |
| Mechanical Engineering 201.... | 0 | 3 | Mathematics 204 | 5 | 0 |
| Pattern Making and Foundry | | | Calculus | | |
| Mil. Sci. 201, 203 or 205..... | 1 | 2 | Mechanical Engineering 214.... | 0 | 3 |
| Physics 207 | 3 | 2 | Machine Shop | | |
| General | | | Mil. Sci. 202, 204 or 206..... | 1 | 2 |
| | | | Physics 208 | 3 | 2 |
| | | | General | | |
| | — | — | | — | — |
| | 15 | 13 | | 14 | 16 |

JUNIOR YEAR.

| | | | | | |
|--------------------------------|----|---|---------------------------------|----|---|
| Electrical Engineering 301.... | 4 | 6 | Civil Engineering 328..... | 0 | 2 |
| Direct Currents | | | Materials Laboratory | | |
| English 303 | 2 | 0 | Civil Engineering 332..... | 3 | 0 |
| Argumentation | | | Mechanics of Materials | | |
| History 305 | 3 | 0 | Electrical Engineering 302... 5 | 6 | |
| Citizenship | | | Alternating Currents | | |
| Mechanical Engineering 307.. | 2 | 2 | Mechanical Engineering 302... 4 | 0 | |
| Kinematics | | | Steam Engines and Boilers | | |
| Mechanical Engineering 317.. | 3 | 0 | Mechanical Engineering 318.. 2 | 0 | |
| Engineering Mechanics | | | Engineering Mechanics | | |
| *Elective | 3 | | *Elective | 3 | |
| | — | — | | — | — |
| | 17 | 8 | | 17 | 8 |

*To be chosen from List B, page 125.

Note.—If Military Science 305, 306 be chosen it must be accompanied by Electrical Engineering 309, 310.

SENIOR YEAR.

| | | | | | |
|--------------------------------|----|----|---------------------------------|----|---|
| Economics 403 | 3 | 0 | Civil Engineering 410..... | 2 | 0 |
| Fundamental Principles | | | Contracts and Specifications | | |
| Electrical Engineering 401.... | 6 | 7 | Electrical Engineering 402... 3 | 6 | |
| A. C. Machinery | | | A. C. Machinery | | |
| English 401 | 1 | 0 | English 402 | 1 | 0 |
| Public Speaking | | | Public Speaking | | |
| Mechanical Engineering 415.. | 0 | 3 | Mechanical Engineering 416.. 0 | 3 | |
| Laboratory | | | Laboratory | | |
| *Elective | 6 | 0 | *Elective | 11 | |
| | — | — | | — | — |
| | 16 | 10 | | 17 | 9 |

*To be chosen from the following:

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|-------------------------------|-----------------|-----|-------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Electrical Engineering 427... | 2 | 2 | Electrical Engineering 424... | 2 | 2 |
| Telephony | | | Electric Railways | | |
| Electrical Engineering 425... | 2 | 2 | Electrical Engineering 406... | 2 | 2 |
| Illumination Engineering | | | Power Distribution | | |
| Electrical Engineering 409... | 2 | 3 | Electrical Engineering 410... | 1 | 3 |
| Communication Engineering | | | Communication Engineering | | |
| Civil Engineering 411..... | 3 | 0 | Electrical Engineering 432... | 3 | 0 |
| Hydraulics | | | Public Utility Problems | | |
| *Elective | 3 | | Electrical Engineering 434... | 1 | 4 |
| | | | Design and Construction | | |
| | | | Geology 412 | 3 | 3 |
| | | | General | | |
| | | | *Elective | 3 | |

*Electives must include one subject each term from List C, page 125. If Military Science 405, 406 be chosen, it must be accompanied by Electrical Engineering 409, 410.

III.—COURSE IN MECHANICAL ENGINEERING.

FRESHMAN YEAR.

See page 112.

SOPHOMORE YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|----------------------------------|-----------------|-----|----------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Chemistry 207 | 2 | 3 | Chemistry 208 | 1 | 4 |
| Quantitative Analysis | | | Technical Analysis | | |
| English 203 | 2 | 0 | English 204 | 2 | 0 |
| Composition | | | Composition | | |
| Mathematics 203 | 5 | 0 | Mathematics 204 | 5 | 0 |
| Calculus | | | Calculus | | |
| Mechanical Engineering 201... 0 | 3 | | Mechanical Engineering 202... 0 | 3 | |
| Pattern Making and Foundry | | | Pattern Making and Foundry | | |
| Mechanical Engineering 207... 2 | 2 | | Mechanical Engineering 212... 3 | 0 | |
| Kinematics | | | Engineering Mechanics | | |
| Mil. Sci. 201, 203 or 205..... 1 | 2 | | Mil. Sci. 202, 204 or 206..... 1 | 2 | |
| Physics 203 | 3 | 3 | Physics 204 | 3 | 3 |
| General | | | General | | |
| | 15 | 13 | | 15 | 12 |

JUNIOR YEAR.

| | | | |
|----------------------------------|----|----------------------------------|----|
| Civil Engineering 305..... 3 | 0 | Civil Engineering 328..... 0 | 2 |
| Mechanics of Materials | | Materials Laboratory | |
| Electrical Engineering 307.... 3 | 0 | Electrical Engineering 308.... 2 | 3 |
| Electrical Machinery | | Electrical Machinery | |
| English 303 | 2 | History 306 | 0 |
| Argumentation | | Citizenship | |
| Mechanical Engineering 319... 4 | 0 | Mechanical Engineering 320... 4 | 0 |
| Engines and Boilers | | Thermodynamics | |
| Mechanical Engineering 303... 0 | 3 | Mechanical Engineering 304... 0 | 4 |
| Machine Design | | Machine Design | |
| Mechanical Engineering 313... 3 | 0 | Mechanical Engineering 314... 3 | 0 |
| Engineering Mechanics | | Engineering Mechanics | |
| Mechanical Engineering 309... 0 | 3 | Mechanical Engineering 310... 0 | 3 |
| Machine Shop | | Machine Shop | |
| *Elective | 3 | *Elective | 3 |
| | 17 | | 15 |
| | 8 | | 12 |

*To be chosen from List B, page 125.

SENIOR YEAR.

Required in all groups.

| | | | |
|---------------------------------|----|---------------------------------|---|
| Chemical Engineering 407..... 3 | 0 | Chemical Engineering 408..... 2 | 0 |
| Industrial Chemistry | | Metallurgy | |
| Civil Engineering 411..... 3 | 0 | English 402 | 0 |
| Hydraulics | | Public Speaking | |
| Economics 403 | 3 | Mechanical Engineering 404... 0 | 4 |
| Fundamental Principles | | Laboratory | |
| English 401 | 1 | Mechanical Engineering 410... 3 | 0 |
| Public Speaking | | Gas Engines | |
| Mechanical Engineering 403... 0 | 4 | Mechanical Engineering 412... 3 | 0 |
| Laboratory | | History and Biography | |
| | 10 | | 9 |
| | 4 | | 4 |

GROUP 1.

| First Term. | Hours per week. | | | Second Term. | Hours per week. | |
|---|-----------------|-------|--|---|-----------------|-------|
| | Th. | Pr. | | | Th. | Pr. |
| Mechanical Engineering 407... Thermodynamics | 2 | 0 | | Mechanical Engineering 414... Steam Turbines | 2 | 0 |
| Mechanical Engineering 417... Power Plants and Equipment | 2 | 4 | | Mechanical Engineering 418... Power Plants and Equipment | 2 | 4 |
| *Elective | 3 | | | *Elective | 3 | |
| | <hr/> | <hr/> | | | <hr/> | <hr/> |
| | 7 | 4 | | | 7 | 4 |

GROUP 2.

| | | | | | | |
|---|-------|-------|--|---|-------|-------|
| Mechanical Engineering 419... Industrial Engineering | 3 | 2 | | Mechanical Engineering 420... Industrial Engineering | 3 | 2 |
| Mechanical Engineering 421... Methods and Management | 2 | 0 | | Mechanical Engineering 422... Methods and Management | 2 | 0 |
| *Elective | 3 | | | *Elective | 3 | |
| | <hr/> | <hr/> | | | <hr/> | <hr/> |
| | 8 | 2 | | | 8 | 2 |

GROUP 3.

| | | | | | | |
|--|-------|-------|--|--|-------|-------|
| Mechanical Engineering 423... Transportation | 2 | 0 | | Mechanical Engineering 424... Transportation | 2 | 0 |
| Mechanical Engineering 425... Railway Mech. Engineering | 2 | 4 | | Mechanical Engineering 426... Railway Mech. Engineering | 2 | 4 |
| *Elective | 3 | | | *Elective | 3 | |
| | <hr/> | <hr/> | | | <hr/> | <hr/> |
| | 7 | 4 | | | 7 | 4 |

*To be chosen from List C, page 125; or any other approved elective.

VI.—COURSE IN TEXTILE ENGINEERING.

FRESHMAN YEAR.

See page 112.

SOPHOMORE YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------|-----------------|-----|--------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Chemistry 207 | 2 | 3 | Agricultural Economics 206.. | 1 | 4 |
| Quantitative Analysis | | | Principles of Accounting | | |
| Drawing 201a | 0 | 2 | Chemistry 208 | 1 | 4 |
| Mechanical | | | Technical Analysis | | |
| English 203 | 2 | 0 | Civil Engineering 206..... | 1 | 3 |
| Composition | | | Surveying | | |
| Mathematics 205 | 5 | 0 | Drawing 202a | 0 | 2 |
| Calculus | | | Mechanical | | |
| Mechanical Engineering 205... | 2 | 0 | English 204 | 2 | 0 |
| Elementary Steam Engineering | | | Composition | | |
| Military Science 201 or 203... | 1 | 2 | Mechanical Engineering 208... | 2 | 2 |
| Physics 203 | 3 | 3 | Kinematics | | |
| General | | | Military Science 202 or 204... | 1 | 2 |
| Textile Engineering 207..... | 0 | 3 | Physics 204 | 3 | 3 |
| Weaving | | | General | | |
| | | | Textile Engineering 206..... | 0 | 3 |
| | | | Yarn Manufacture | | |
| | 15 | 13 | | 11 | 23 |

JUNIOR YEAR.

| | | | | | |
|--------------------------------|----|----|--------------------------------|----|----|
| Chemistry 305 | 3 | 2 | Chemistry 308 | 2 | 4 |
| Organic | | | Dyeing | | |
| Electrical Engineering 307.... | 3 | 0 | Electrical Engineering 308.... | 2 | 3 |
| Electrical Machinery | | | Electrical Machinery | | |
| English 303 | 2 | 0 | History 306 | 3 | 0 |
| Argumentation | | | Citizenship | | |
| Mechanical Engineering 309... | 0 | 3 | Textile Engineering 302..... | 0 | 2 |
| Machine Shop | | | Yarn Manufacture | | |
| Textile Engineering 301..... | 2 | 3 | Textile Engineering 304..... | 0 | 3 |
| Yarn Manufacture | | | Fabric Design | | |
| Textile Engineering 303..... | 0 | 3 | Textile Engineering 306..... | 3 | 3 |
| Fabric Design | | | Weaving | | |
| Textile Engineering 305..... | 0 | 3 | *Elective | 3 | |
| Weaving | | | | | |
| *Elective | 3 | | | | |
| | 13 | 14 | | 13 | 15 |

*To be chosen from List B, page 125.

SENIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|------------------------------|-----------------|-------|------------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Economics 403 | 3 | 0 | English 402 | 1 | 0 |
| Fundamental Principles | | | Public Speaking | | |
| English 401 | 1 | 0 | Textile Engineering 402..... | 2 | 3 |
| Public Speaking | | | Yarn Manufacture | | |
| Textile Engineering 401..... | 3 | 2 | Textile Engineering 404..... | 1 | 0 |
| Yarn Manufacture | | | Fabric Analysis | | |
| Textile Engineering 407..... | 3 | 2 | Textile Engineering 408..... | 3 | 3 |
| Weaving | | | Weaving | | |
| Textile Engineering 413..... | 1 | 2 | Textile Engineering 410..... | 2 | 0 |
| Cotton Classing | | | Mill Management | | |
| Textile Engineering 415..... | 0 | 3 | Textile Engineering 412..... | 1 | 0 |
| Fabric Design | | | Magazine Review | | |
| *Elective | 6 | | Textile Engineering 414..... | 0 | 2 |
| | | | Cotton Classing | | |
| | | | Textile Engineering 416..... | 0 | 3 |
| | | | Fabric Design | | |
| | | | *Elective | 6 | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 17 | 9 | | 16 | 11 |

*Two subjects each term from List C.

LIST B.

Junior electives common to all engineering courses.

| | | | | | |
|---------------------------------|---|---|---------------------------------|---|---|
| English 321 | 3 | 0 | English 322 | 3 | 0 |
| Literature | | | Literature | | |
| History 307 | 3 | 0 | History 308 | 3 | 0 |
| Europe Since 1815 | | | Industrial History | | |
| *Military Science | 3 | 2 | *Military Science | 3 | 2 |
| Modern Lang. 311, 313 or 315. 3 | 0 | | Modern Lang. 312, 314 or 316. 3 | 0 | |
| French, German or Spanish | | | French, German or Spanish | | |

LIST C.

Senior electives common to all engineering courses.

| | | | | | |
|---------------------------------|---|---|---|---|---|
| English 403 | 3 | 0 | Economics 408 | 3 | 0 |
| Public Speaking | | | Corporation Finance | | |
| *Military Science | 3 | 2 | English 404 | 3 | 0 |
| Modern Lang. 421, 423 or 425. 3 | 0 | | Public Speaking | | |
| French, German or Spanish | | | *Military Science | 3 | 2 |
| Vocational Teaching 423..... | 3 | 0 | Modern Lang. 422, 424 or 426. 3 | 0 | |
| Psychology Applied to Industry | | | French, German or Spanish | | |
| | | | Vocational Teaching 424..... | 3 | 0 |
| | | | Training and Supervising Workers in Industrial Plants | | |

*Note.—If Military Science 305, 306 and Military Science 405, 406 are elected they must be accompanied by Electrical Engineering 309, 310 and Electrical Engineering 409, 410, respectively.

XIII.—COURSE IN INDUSTRIAL EDUCATION.

FRESHMAN YEAR.

See page 112.

SOPHOMORE YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|-------------------------------|-----------------|-----|--------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Drawing 201 | 0 | 3 | Agricultural Engineering 206.. | 2 | 4 |
| Mechanical | | | Gas Engines | | |
| Drawing 203 | 0 | 3 | Drawing 218 | 0 | 3 |
| Color Harmony and Design | | | Machine Drawing | | |
| English 203 | 2 | 0 | Electrical Engineering 206... | 2 | 2 |
| Composition | | | Motors, Wiring and Lighting | | |
| Mechanical Engineering 201.. | 0 | 3 | English 204 | 2 | 0 |
| Pat. Making and Foundry Work | | | Composition | | |
| Mechanical Engineering 205.. | 2 | 0 | Mechanical Engineering 202.. | 0 | 3 |
| Elementary Steam Engineering | | | Pat. Making and Foundry Work | | |
| Mechanical Engineering 211.. | 0 | 3 | Military Science 202 or 204... | 1 | 2 |
| Carpentry and Cabinet Making | | | Physics 204 | 3 | 3 |
| Military Science 201 or 203.. | 1 | 2 | General | | |
| Physics 203 | 3 | 3 | Vocational Teaching 210..... | 2 | 0 |
| General | | | Vocational Job Analysis | | |
| Vocational Teaching 205..... | 3 | 0 | | | |
| Vocational Education | | | | | |
| | — | — | | — | — |
| | 11 | 17 | | 12 | 17 |

JUNIOR YEAR.

(Effective 1924-25.)

(For 1923-24, see Forty-sixth Annual Catalogue.)

| | | | | | |
|--------------------------------|----|---|------------------------------|----|---|
| Drawing 317 | 0 | 3 | Architecture 316 | 3 | 0 |
| Elementary Arch. Drawing | | | Mechanical Equipment | | |
| English 303 | 2 | 0 | History 308 | 3 | 0 |
| Argumentation | | | Industrial History | | |
| History 305 | 3 | 0 | Mechanical Engineering 310.. | 0 | 3 |
| Citizenship | | | Machine Shop Work | | |
| Mechanical Engineering 309.. | 0 | 3 | Vocational Teaching 318..... | 2 | 2 |
| Machine Shop | | | Lesson Planning and | | |
| Vocational Teaching 323..... | 3 | 0 | Method of Teaching | | |
| Psychology Applied to Industry | | | Elective | 10 | |
| Elective | 8 | | | | |
| | — | — | | — | — |
| | 16 | 6 | | 18 | 5 |

SENIOR YEAR.

(Effective 1925-26.)

(For 1923-24 and 1924-25, see Forty-fifth Annual Catalogue.)

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|------------------------------|-----------------|-------|--------------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Chemical Engineering 407.... | 3 | 0 | Agricultural Engineering 420. | 2 | 4 |
| Industrial Chemistry | | | Auto Mechanics | | |
| Economics 403 | 3 | 0 | Chemical Engineering 408.... | 2 | 0 |
| Fundamental Principles | | | Metallurgy | | |
| English 401 | 1 | 0 | Economics 408 | 3 | 0 |
| Public Speaking | | | Corporation Finance | | |
| Vocational Teaching 421..... | 1 | 4 | English 402 | 1 | 0 |
| Class Room Organization and | | | Public Speaking | | |
| Management | | | Vocational Teaching 416..... | 3 | 0 |
| Elective | 10 | | Administration and Supervision | | |
| | | | of Industrial Education | | |
| | | | Elective | 7 | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 18 | 4 | | 18 | 4 |

Students of Industrial Education are advised to choose their electives with the purpose in view of making themselves strong in some special field of industrial education. Ample opportunities for choosing electives are afforded in the Architectural, Chemical, Civil, Electrical, Mechanical, Textile Engineering Departments; and in the Drawing, Mathematics and Physics Departments.

Electives may also be chosen from Lists B and C, page 125.

COURSE IN ARCHITECTURE.

(Leading to the Degree of Master of Science in Architecture.)

FIFTH YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------|-----------------|-----|--------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Architecture 501 0 | 18 | | Architecture 502 0 | 18 | |
| Design | | | Design | | |
| Architecture 503 2 | 0 | | Architecture 504 2 | 0 | |
| Advanced Construction | | | Advanced Construction | | |
| Drawing 509 0 | 4 | | Drawing 510 0 | 4 | |
| Rendering | | | Rendering | | |
| Horticulture 415 3 | 4 | | Horticulture 416 3 | 4 | |
| Landscape Art | | | Landscape Art | | |
| Elective 3 | | | Elective 3 | | |

COURSE IN CHEMICAL ENGINEERING.

(Leading to the Degree of Master of Science in Chemical Engineering.)

FIFTH YEAR.

| | | | |
|---------------------------------|----|---------------------------------|----|
| Chemical Engineering 503..... 2 | 12 | Chemical Engineering 504..... 2 | 12 |
| Advanced Industrial Chemistry | | Advanced Industrial Chemistry | |
| Chemical Engineering 505..... 2 | 4 | Chemical Engineering 506..... 2 | 4 |
| Rarer Elements | | Chemical Preparations | |
| Elective 6 | | Elective 6 | |

COURSE IN CIVIL ENGINEERING.

(Leading to the Degree of Master of Science in Civil Engineering.)

Each candidate for the advanced degree must select from the list of subjects shown below, or others approved by the head of the course and the Committee on Graduate Studies, at least twenty-one term-hours each term.

FIFTH YEAR.

| | | | |
|--------------------------------------|---|----------------------------------|---|
| Civil Engineering 501..... 2 | 0 | Civil Engineering 502..... 2 | 0 |
| Least Squares | | Geodesy | |
| Civil Engineering 503..... 2 | 0 | Civil Engineering 504..... 2 | 0 |
| Water Powers | | Astronomy | |
| Civil Engineering 505..... 2 | 0 | Civil Engineering 506..... 2 | 0 |
| Sanitary Science | | Reclamation Engineering | |
| Civil Engineering 507..... 3 | 4 | Civil Engineering 508..... 2 | 6 |
| Advanced Bridge Analysis | | Higher Structures | |
| Civil Engineering 509..... 3 | 3 | Civil Engineering 510..... 3 | 3 |
| General Civil Engineering | | General Civil Engineering | |
| Civil Engineering 513..... 3 | 0 | Civil Engineering 514..... 3 | 0 |
| Highway Construction and Maintenance | | Highway Financing and Estimating | |
| Civil Engineering 515..... 1 | 3 | Civil Engineering 516..... 1 | 3 |
| Highway Materials | | Highway Materials | |
| Elective 3 | | Elective 3 | |

COURSE IN ELECTRICAL ENGINEERING.

(Leading to the Degree of Master of Science in Electrical Engineering.)

FIFTH YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------|-----------------|-----|--------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Electrical Engineering 501.... | 3 | 0 | Electrical Engineering 502.... | 3 | 0 |
| Advanced Alternating Currents | | | Advanced Alternating Currents | | |
| Electrical Engineering 503.... | 3 | 0 | Electrical Engineering 504.... | 3 | 0 |
| Electrical Machine Design | | | Power Plant Design | | |
| Electrical Engineering 505.... | 3 | 0 | Electrical Engineering 506.... | 3 | 0 |
| General Electrical Engineering | | | General Electrical Engineering | | |
| Electrical Engineering 507.... | 0 | 8 | Electrical Engineering 508.... | 0 | 8 |
| Laboratory | | | Laboratory | | |
| Elective | 6 | | Elective | 6 | |

COURSE IN MECHANICAL ENGINEERING.

(Leading to the Degree of Master of Science in Mechanical Engineering.)

FIFTH YEAR.

| | | | | | |
|--------------------------------|---|---|--------------------------------|---|---|
| Mathematics 501 | 4 | 0 | Mathematics 502 | 4 | 0 |
| Calculus | | | Differential Equations | | |
| Mechanical Engineering 501... | 2 | 4 | Mechanical Engineering 502... | 2 | 4 |
| General Mechanical Engineering | | | General Mechanical Engineering | | |
| Mechanical Engineering 503... | 3 | 0 | Mechanical Engineering 504... | 3 | 0 |
| Power Plants | | | Power Plants | | |
| Elective | 5 | | Elective | 5 | |

H.—TWO-YEAR COURSE IN TEXTILE ENGINEERING.**FIRST YEAR.**

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|-------------------------------|-----------------|-----|-------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Drawing 11 | 0 | 3 | Drawing 12 | 0 | 3 |
| Mechanical | | | Mechanical | | |
| Drawing 13 | 0 | 1 | Drawing 14 | 0 | 1 |
| Freehand | | | Freehand | | |
| English 31 | 3 | 0 | English 32 | 3 | 0 |
| Practical Composition | | | Practical Composition | | |
| Mechanical Engineering 21.... | 4 | 0 | Mechanical Engineering 22.... | 4 | 0 |
| Power and Heat | | | Power and Heat | | |
| Mechanical Engineering 25.... | 0 | 4 | Mechanical Engineering 26.... | 0 | 4 |
| Forging | | | Woodwork | | |
| Military Science 11..... | 1 | 2 | Military Science 12..... | 1 | 2 |
| Physics 11 | 2 | 2 | Physics 12 | 2 | 2 |
| Elementary | | | Elementary | | |
| Textile Engineering 11..... | 0 | 3 | Textile Engineering 12..... | 0 | 3 |
| Designing | | | Designing | | |
| Textile Engineering 13..... | 4 | 3 | Textile Engineering 16..... | 3 | 3 |
| Yarn Manufacture | | | Weaving | | |
| | — | — | | — | — |
| | 14 | 18 | | 13 | 18 |

SECOND YEAR.

| | | | | | |
|-------------------------------|----|----|-------------------------------|----|----|
| Chemistry 51 | 3 | 2 | Chemistry 54 | 2 | 2 |
| Practical Chemistry | | | Dyeing | | |
| Mechanical Engineering 61.... | 0 | 3 | Mechanical Engineering 62.... | 0 | 3 |
| Machine Shop Practice | | | Machine Shop Practice | | |
| Mechanical Engineering 75.... | 4 | 0 | Mechanical Engineering 76.... | 4 | 0 |
| Engines and Boilers | | | Engines and Boilers | | |
| Military Science 51..... | 1 | 2 | Military Science 52..... | 1 | 2 |
| Textile Engineering 51..... | 3 | 2 | Textile Engineering 52..... | 3 | 4 |
| Yarn Manufacture | | | Yarn Manufacture | | |
| Textile Engineering 53..... | 0 | 3 | Textile Engineering 54..... | 0 | 3 |
| Designing | | | Designing | | |
| Textile Engineering 55..... | 3 | 2 | Textile Engineering 56..... | 3 | 4 |
| Weaving | | | Weaving | | |
| Textile Engineering 61..... | 1 | 2 | Textile Engineering 58..... | 1 | 0 |
| Cotton Classing | | | Fabric Analysis | | |
| | — | — | | — | — |
| | 15 | 16 | | 14 | 18 |

N.—TWO-YEAR COURSE IN ENGINEERING.

To be discontinued after September, 1924.

SECOND YEAR.

| First Term. | Hours per week | | Second Term. | Hours per week | |
|--------------------------------|----------------|-------|--------------------------------|----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Electrical Engineering 55..... | 5 | 4 | Electrical Engineering 56..... | 5 | 4 |
| Alternating Currents | | | Electrical Machinery | | |
| Mechanical Engineering 75..... | 4 | 0 | Mechanical Engineering 76..... | 4 | 0 |
| Engines and Boilers | | | Engines and Boilers | | |
| Mechanical Engineering 63..... | 0 | 3 | Mechanical Engineering 64..... | 0 | 3 |
| Engineering Laboratory | | | Engineering Laboratory | | |
| Military Science 51..... | 1 | 2 | Military Science 52..... | 1 | 2 |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 10 | 9 | | 10 | 9 |

And one of the following groups:

GROUP 1.

| | | | | | |
|--------------------------------|---|---|--------------------------------|---|---|
| Electrical Engineering 65..... | 3 | 0 | Electrical Engineering 66..... | 3 | 0 |
| Applied Electricity | | | Applied Electricity | | |
| Electrical Engineering 61..... | 0 | 4 | Electrical Engineering 62..... | 0 | 4 |
| Electrical Laboratory | | | Electrical Laboratory | | |
| Mechanical Engineering 61..... | 0 | 3 | Mechanical Engineering 62..... | 0 | 3 |
| Machine Shop | | | Machine Shop | | |

GROUP 2.

| | | | | | |
|--------------------------------|---|---|--------------------------------|---|---|
| Mechanical Engineering 65..... | 3 | 2 | Mechanical Engineering 66..... | 3 | 2 |
| Shop Methods | | | Shop Methods | | |
| Mechanical Engineering 71..... | 0 | 5 | Mechanical Engineering 72..... | 0 | 5 |
| Foundry and Machine Shop | | | Foundry and Machine Shop | | |

XI.—COURSE IN VETERINARY MEDICINE.

FRESHMAN YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------------|-----------------|-----|--------------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Biology 101 | 2 | 4 | Biology 102 | 2 | 4 |
| General Botany | | | General Botany | | |
| Chemistry 101 | 3 | 3 | Chemistry 102 | 3 | 3 |
| Inorganic | | | Inorganic | | |
| English 103 | 3 | 0 | English 104 | 3 | 0 |
| Rhetoric and Composition | | | Rhetoric and Composition | | |
| Mil. Sci. 101, 103 or 105 | 1 | 2 | Mil. Sci. 102, 104 or 106 | 1 | 2 |
| Physics 111 | 2 | 2 | Physics 112 | 2 | 2 |
| Agricultural Physics | | | Agricultural Physics | | |
| Veterinary Anatomy 111 | 3 | 6 | Veterinary Anatomy 112 | 3 | 6 |
| Veterinary Phys. and Phar. 121 | 2 | 0 | Veterinary Phys. and Phar. 122 | 2 | 0 |
| Physiology | | | Physiology | | |
| | — | — | | — | — |
| | 16 | 17 | | 16 | 17 |

SOPHOMORE YEAR.

| | | | | | |
|--------------------------------------|----|----|--------------------------------------|----|----|
| Biology 209 | 2 | 4 | Animal Husbandry 204 | 2 | 4 |
| General Bacteriology | | | Judging | | |
| English 203 | 2 | 0 | Biology 208 | 2 | 4 |
| Composition | | | Zoology | | |
| Entomology 203 | 3 | 2 | Chemistry 206 | 3 | 2 |
| Veterinary Entomology | | | Organic | | |
| Military Science 201 or 203 | 1 | 2 | English 204 | 2 | 0 |
| Veterinary Anatomy 211 | 3 | 6 | Composition | | |
| Anatomy of Domestic Animals | | | Military Science 202 or 204 | 1 | 2 |
| Veterinary Anatomy 213 | 2 | 4 | Veterinary Pathology 242 | 3 | 2 |
| Histology and Embryology | | | General | | |
| Veterinary Phys. and Phar. 221 | 2 | 0 | Veterinary Phys. and Phar. 222 | 3 | 4 |
| Physiology | | | Physiology | | |
| | — | — | | — | — |
| | 15 | 18 | | 16 | 18 |

JUNIOR YEAR.

| | | | | | |
|-----------------------------------|----|----|-----------------------------------|----|----|
| Dairy Husbandry 301 | 2 | 2 | Animal Husbandry 302 | 3 | 0 |
| Market Milk | | | Animal Breeding | | |
| English 301 | 1 | 0 | English 302 | 1 | 0 |
| Argumentation | | | Argumentation | | |
| Vet. Med. and Surgery 371 | 0 | 7 | Vet. Med. and Surgery 372 | 0 | 12 |
| Clinic | | | Clinic | | |
| Veterinary Medicine 351 | 3 | 0 | Veterinary Medicine 352 | 3 | 0 |
| Non-infectious Diseases | | | Non-infectious Diseases | | |
| Veterinary Pathology 341 | 2 | 0 | Veterinary Pathology 342 | 2 | 4 |
| Special | | | Special | | |
| Veterinary Pathology 343 | 2 | 4 | Veterinary Pharmacology 334 | 3 | 0 |
| Special Bacteriology | | | Pharmacology | | |
| Veterinary Pharmacology 333 | 3 | 4 | Veterinary Surgery 362 | 3 | 0 |
| Pharmacology | | | General | | |
| Veterinary Surgery 361 | 3 | 0 | Elective | 3 | |
| General | | | | | |
| Elective | 3 | | | | |
| | — | — | | — | — |
| | 19 | 17 | | 18 | 16 |

SENIOR YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------|-----------------|-------|-------------------------------|-----------------|-------|
| | Th. | Pr. | | Th. | Pr. |
| Animal Husbandry 409..... | 3 | 2 | English 402 | 1 | 0 |
| Animal Nutrition | | | Public Speaking | | |
| English 401 | 1 | 0 | Vet. Med. and Surgery 472... | 0 | 7 |
| Public Speaking | | | Clinic | | |
| Veterinary Medicine 453..... | 3 | 0 | Veterinary Medicine 452..... | 3 | 0 |
| Infectious Diseases | | | Practice of Medicine and | | |
| Vet. Med. and Surgery 471... 0 | 7 | | Jurisprudence | | |
| Clinic | | | Veterinary Pathology 444..... | 2 | 2 |
| Veterinary Medicine 451..... | 3 | 0 | Laboratory Diagnosis | | |
| Diseases of Small Animals and | | | Veterinary Pathology 442..... | 2 | 2 |
| Fowls | | | Meat Hygiene | | |
| Veterinary Pathology 441..... | 2 | 2 | Veterinary Pharmacology 432. | 1 | 2 |
| Immunology and Serum Therapy | | | Toxicology | | |
| Veterinary Pathology 443..... | 2 | 2 | Veterinary Surgery 462..... | 3 | 4 |
| Parasitology | | | Operative | | |
| Veterinary Surgery 461..... | 2 | 0 | Elective | 3 | |
| Obstetrics | | | | | |
| Elective | 3 | | | | |
| | <hr/> | <hr/> | | <hr/> | <hr/> |
| | 19 | 13 | | 15 | 17 |

X.—COURSE IN SCIENCE.

(For the Session 1923-24, this course will be open to Freshmen and Sophomores only.)

FRESHMAN YEAR.

| First Term. | Hours per week. | | Second Term. | Hours per week. | |
|--------------------------------|-----------------|-----|--------------------------------|-----------------|-----|
| | Th. | Pr. | | Th. | Pr. |
| Biology 103 | 2 | 4 | Biology 104 | 2 | 4 |
| Botany | | | Botany | | |
| Chemistry 103 | 3 | 4 | Chemistry 104 | 3 | 4 |
| Inorganic | | | Inorganic | | |
| Drawing 119 | 0 | 2 | Drawing 120 | 0 | 2 |
| Freehand | | | Freehand | | |
| English 103 | 3 | 0 | English 104 | 3 | 0 |
| Rhetoric and Composition | | | Rhetoric and Composition | | |
| Mathematics 101 | 3 | 0 | Mathematics 106 | 3 | 0 |
| Algebra | | | Trigonometry | | |
| Military Science | 1 | 2 | Military Science | 1 | 2 |
| ‡Physics 103 | 3 | 2 | ‡Physics 104 | 3 | 2 |
| College Physics | | | College Physics | | |
| | 15 | 14 | | 15 | 14 |

‡See Note 1, next page.

SOPHOMORE YEAR.

| | | | | | |
|---------------------------------|----|---|---------------------------------|----|---|
| English 203 | 2 | 0 | English 204 | 2 | 0 |
| Composition | | | Composition | | |
| History 207 | 3 | 0 | History 206 | 3 | 0 |
| Europe Since 1817 | | | Citizenship | | |
| Military Science | 1 | 2 | Military Science | 1 | 2 |
| Modern Lang. 211, 213 or 215. 3 | 0 | | Modern Lang. 212, 214 or 216. 3 | 0 | |
| French, German or Spanish | | | French, German or Spanish | | |
| *Elective.....13½ to 10 | | | *Elective.....13½ to 10 | | |
| | 21 | 2 | | 21 | 2 |

JUNIOR YEAR.

| | | | | | |
|-------------------------|----|---|-------------------------|----|---|
| Economics 313 | 3 | 0 | Economics 314 | 3 | 0 |
| Principles | | | Principles | | |
| English 303 | 2 | 0 | English 304 | 2 | 0 |
| Argumentation | | | Argumentation | | |
| *Elective.....17½ to 16 | | | *Elective.....17½ to 16 | | |
| | 21 | 0 | | 21 | 0 |

SENIOR YEAR.

| | | | | | |
|-------------------------------|----|---|-------------------------------|-----------|---|
| English 401 | 1 | 0 | English 402 | 1 | 0 |
| Public Speaking | | | Public Speaking | | |
| English 423 | 2 | 0 | English 424 | 2 | 0 |
| Contemporary Literature | | | Contemporary Literature | | |
| Rural Sociology 411..... 3 | 0 | | Rural Sociology 412..... 3 | 0 | |
| Social Psychology | | | General Sociology | | |
| *Elective.....16½ to 15 | | | *Elective | 16½ to 15 | |
| | 21 | 0 | | 21 | 0 |

Note 1.—Premedical students may take a modern language in the freshman and sophomore years, postponing Physics 103, 104. In that case, Physics 103, 104 must be taken in the sophomore year, along with two other sciences, not including Physics 201, 202.

***ELECTIVES.**

Sophomore year.—For the sophomore year, three subjects are to be elected each term from the following list:

List of Sophomore Electives.

| | | |
|--|---|---|
| Biology 203, 204, Zoology..... | 2 | 4 |
| Chemistry 201, 202, Organic..... | 3 | 4 |
| Entomology 205, Systematic; 206, Economic..... | 2 | 2 |
| Geology 201, Physical Geography; 202, Industrial and Commercial Geography..... | 2 | 2 |
| Physics 201, 202, General..... | 3 | 3 |

Note 2.—The student who plans to take Physics in the junior year must substitute Mathematics 104 for one of the specified sophomore electives for the second term; and must take Mathematics 203, 204 in the junior year.

Junior and Senior years.—For the junior and senior years, the electives are to be chosen from the following list, and throughout each year must include:

(a) Two sciences; of the two elected in the junior year, one (to be designated as the *major*) must be continued through the senior year.

(b) One of the following: Victorian Literature, Modern Language, History 411, 412.

List of Junior and Senior Electives.

| | | |
|---|---|---|
| Agronomy 305, 312, Genetics..... | 2 | 2 |
| Biology 309, 310, General Bacteriology; 409, 410, Advanced Bacteriology..... | 2 | 4 |
| Biology 303, 304, Plant Physiology; 403, 404, Plant Pathology..... | 2 | 4 |
| Biology 317, 318, Vertebrate Anatomy; 419, 420, General Embryology... | 2 | 4 |
| Chemistry 315, Qualitative Analysis; Chemical Engineering 312 (Quantitative)..... | 2 | 8 |
| Chemical Engineering 411, Physical Chemistry; 414, Sanitary Chemistry.. | 3 | 4 |
| Drawing 319, 320, Freehand..... | 0 | 2 |
| English 321, 322, Victorian Literature..... | 3 | 0 |
| Entomology 301, 302, Systematic; 401, 402, Economic..... | 2 | 4 |
| Entomology 307, (3-2); 304 (Apiculture)..... | 2 | 2 |
| Entomology 312, Medical Entomology..... | 3 | 2 |
| Entomology 403, Entomological Literature (3-0); 408, Queen Rearing.... | 1 | 4 |
| Geology 301, General; 302, Historical..... | 3 | 2 |
| Geology 401, Mineralogy (1-6); 414, Petrology..... | 2 | 4 |
| Geology 413, Economic Geology (3-2); 404, Petroleum Geology..... | 3 | 3 |
| History 411, 412, The Outline of History..... | 3 | 0 |
| Mathematics 203, 204, Calculus (5-0); 502, Differential Equations.... | 3 | 0 |
| Military Science..... | 3 | 2 |
| Modern Languages, 421, 422, French; 423, 424, German; or 425, 426, Spanish..... | 3 | 0 |
| Physics 301, Properties of Matter; 302, Heat..... | 3 | 3 |
| Physics 401, Optics; 402, Electricity and Magnetism..... | 3 | 3 |
| Physics 403, Kinetic Theory; 404, Electron Theory..... | 3 | 0 |

COURSES OF INSTRUCTION BY DEPARTMENTS.

The courses of instruction are described on the following pages under the department in which they are offered. Courses from 101 to 199 are for freshmen, 201 to 299 for sophomores, 301 to 399 for juniors, 401 to 499 for seniors, 501 to 599 for graduate students; 1 to 49 for first-year students in short courses; 51 to 99 for second-year students in short courses. First-term courses are given odd numbers, second-term courses, even numbers.

The figures in parenthesis following the name of a course indicate the number of hours per week, theory and practice, respectively, devoted to the course.

For convenience of reference, the departments are listed here in alphabetical order:

| | Page | | Page |
|--|------|--|------|
| Agricultural Economics..... | 138 | Geology..... | 196 |
| Agricultural Engineering..... | 143 | History..... | 200 |
| Agronomy..... | 146 | Horticulture..... | 201 |
| Animal Husbandry..... | 151 | Mathematics..... | 207 |
| Architecture..... | 156 | Mechanical Engineering..... | 208 |
| Biology..... | 158 | Military Science and Tactics.... | 214 |
| Chemistry and Chemical Engi- neering..... | 163 | Modern Languages..... | 220 |
| Civil Engineering..... | 170 | Physics..... | 221 |
| Dairy Husbandry..... | 176 | Rural Sociology..... | 224 |
| Drawing..... | 178 | Textile Engineering..... | 227 |
| Economics..... | 181 | Veterinary Anatomy..... | 229 |
| Electrical Engineering..... | 183 | Veterinary Medicine and Surgery.. | 230 |
| English..... | 187 | Veterinary Pathology..... | 232 |
| Entomology..... | 189 | Veterinary Physiology and Pharmacology..... | 234 |
| Farm Management..... | 193 | Vocational Teaching..... | 236 |
| Forestry..... | 195 | | |

DEPARTMENT OF AGRICULTURAL ECONOMICS.

PROFESSOR BUECHEL, DR. B. YOUNGBLOOD, ASSOCIATE PROFESSOR
LELAND, MR. BARDEEN.

101. *Agricultural Resources.* (3-0).

A survey is made of the existing agricultural resources of the world and their potentialities. An attempt is made to forecast the economic possibilities in agricultural production, and to explain how foreign competition can best be met. The expanding wants of man for food are noted. The student is familiarized with the present areas of production, and the chief sources of consumption. Our foreign trade possibilities are considered, together with the leading trade routes and markets for agricultural products.

Text: Food Resources, J. Russell Smith.

(Required in XIV).

201. *Principles of Accounting.* (1-4).

This course gives an understanding of the theory of double entry bookkeeping. Practical application of principles is obtained through the keeping of model sets. Specifically the course treats of the recording of business transactions in books of original entry, posting, taking the trial balance, making, adjusting and closing entries, and the development of operating and financial statements.

Texts: Principles of Bookkeeping, Miner and Elwell; Accounting Theory and Practice, Vol. 1, Kester.

Laboratory fee, \$1.00.

(Required in XIV).

202. *Principles of Accounting.* (1-4).

This course is a continuation of course 201. It is a prerequisite to all other courses in accounting. The use of special columns, of controlling accounts, and of adjusting entries is further developed through model sets for a departmentalized business, and for a concern operating under a perpetual inventory system. A study is made of the special points of corporation accounting, such as: Corporate organization, stock-books, conversion of a partnership into a corporation, corporation bonds, voucher system, revenue accounts, and statements for a manufacturing business.

Text: Principles of Bookkeeping, Miner and Elwell.

Laboratory fee, \$1.00.

(Required in XIV).

203. *Agricultural Resources.* (3-0).

Same as course 101.

(Elective in I).

206. *Principles of Accounting.* (1-4).

Same as course 201.

Laboratory fee, \$1.00.

(Required in VI).

303. Theory and Practice of Accounting. (2-4).

The purpose of the course is to develop a comprehensive knowledge of the fundamental principles necessary to the practice of accounting in any type of business. The specific points covered include: working sheets, classification of accounts, balance sheets, partnership accounts, realization and liquidation, good-will, capitalization, depreciation, capital stock, amortization, statement of affairs, sinking funds, reserves, fire loss adjustments, and consolidations.

Texts: Accounting Theory and Practice, Vol. II, Kester; Modern Accounting, Hatfield; Applied Theory of Accounts, Esquerre.

Prerequisite: Agricultural Economics 201, 202.

Laboratory fee, \$1.00.

(Elective in XIV).

305. Statistical Method. (2-4).

The meaning and application of statistical method. Recent figures relating to Texas agriculture are arranged in tables and diagrams and are used as a basis for practice exercises on averages, dispersion, index numbers, historical series, and for the determination of coefficients of correlation, variation, etc. Numerous exercises in the use of the correlation table are provided, especially for students majoring in genetics and kindred subjects. The primary aim of the course is to give training in the technique of the more common statistical manipulations so that the student may attack an actual problem with accuracy and confidence.

Text: Elements of Statistical Method, King.

Laboratory fee, \$1.00.

(Required in XIV).

308. Cost Accounting. (1-4).

This course analyzes cost elements and methods of cost finding, giving special emphasis to the use of cost records, both accounting and statistical. The principles of expense classification and distribution will be applied to both manufacturing and commercial concerns, making special application to agricultural enterprises.

Text: Cost Accounting, Jordan and Harris.

Prerequisite: Agricultural Economics 303.

Laboratory fee, \$1.00.

(Elective in XIV).

309. Principles of Accounting. (1-4).

Same as course 201.

Laboratory fee, \$1.00.

(Required in I, group 11).

312. Agricultural Economics. (2-2).

Among the topics considered are the following: Scope and aim of agricultural economics; analysis of the factors in agricultural production, such as the supply of arable land in the nation, its classification and order of utilization; the amount and character of labor required

in different parts of the United States; migratory labor; possibilities of improving type and conditions of agricultural labor; marketing, agricultural finance, cooperation, transportation; distribution, including theories of rent, value of land and its relation to rent, methods of renting; consumption, its effect upon rent, wages, interest, and national prosperity; agriculture and the State—tariff, land settlement, taxation, and credit.

Text: Agricultural Economics, Taylor.

(Required in XIV).

401. *Marketing.* (3-0).

The economic basis of marketing. The various services in the process of marketing such as grading and standardizing, packaging, processing, transportation, storing, financing, and distributing farm products. Essentials of success; fundamentals of cooperative marketing; marketing methods, marketing agencies; the market and price making; weaknesses in the present marketing system; organization the basis of improvement; future trading; government authority in relation to marketing; marketing by federation.

Text: Marketing of Agricultural Products, Hibbard.

(Required in XIV).

402. *Property and Contract.* (3-0).

Problems of property and the social theory of property; conscious social action with reference to property and the evolution of property; the several classes of property; property and economic theory; property and the individual; property and the future; property and contract.

Text: Property and Contract, Ely.

(Required in XIV).

403. *Auditing.* (1-4).

The course gives a detailed procedure for the making of audits and special investigations. The purposes and advantages of each type of audit are studied, both from the viewpoint of the professional accountant and the executive. Attention is given to special problems in auditing of farm accounts and accounts of cooperative organizations. Valuable principles of business analysis and financial control are developed through correct interpretation and verification of accounts. These principles should prove valuable to the student interested in the administration of agricultural and business enterprises.

Text: Auditing, Theory and Practice, Montgomery.

Prerequisite: Agricultural Economics 303.

Laboratory fee, \$1.00.

(Elective in XIV).

407. *Ranch Economics.* (3-0).

Introductory: Area and extent of grazing lands in the United States and in Texas; a historical sketch of ranching; the position of ranching in our national economy; ranch economics defined; the relation of ranch economics to the other sciences. Production on ranches; ranch land as a factor of production; the carrying capacity of the

ranges; diversified ranching; range conservation. Labor as a factor of production in ranching; the management of labor. Ranch capital as a factor of production; ranch finance; ranch credits; means of acquiring a ranch; permanent improvements; operating capital; land credits; live stock credits; intermediate-time credits; short-time operating and marketing credits; the size of ranches. The ranch entrepreneur as a factor of production. Exchange in ranch economy; the marketing of ranch products from the standpoint of production; the application of the value concept in ranch economy; factors affecting the supply of ranch products; factors affecting the demand for ranch products; the cost of production as related to value in ranching; the marketing of ranch products from the standpoint of exchange; transportation problems in the ranch country; the movements of live stock in seeking markets; ranchmen's organizations. Distribution of ranch income; the interest on capital; the rent of land; the wages of labor; the profits of the entrepreneur; factors influencing distribution. Consumption; an analysis of human wants; standards of living; ways and means of increasing the consumption of ranch products.

Text: None.

Prerequisite: Agricultural Economics 301.

(Elective in XIV).

408. *Agricultural Finance.* (2-0).

A study of short, medium, and long-term credit needs of farmers; a brief survey of European cooperative credit systems. Special attention is given to such credit institutions as the Federal Farm Loan System and the recent Intermediate Credit System. A comparative study is made of the farm credit institutions of various States.

Text: To be selected.

(Elective in XIV).

410. *Transportation.* (3-0).

A brief historical survey of transportation. Special attention is given to current transportation problems, including the Esch-Cummins bill; relation between agriculture and transportation.

Text: To be selected.

(Elective in XIV).

411. *Agricultural Economics.* (2-2).

Same as course 312.

(Required in I).

412. *Public Finance and Taxation.* (3-0).

Principles of taxation and the more important taxes such as the general property tax, income tax, and inheritance tax, proposals for tax reform; relative tax burdens on agricultural land; public expenditures; budgets, and budgetary legislation.

Text: To be selected.

(Elective in XIV).

414. *Cooperative Accounting.* (1-2).

A study is made of the special features of accounting for various

types of cooperatives. An analysis is made of the accounting systems devised and recommended by government agencies and farmer organizations. Each student is then expected to devise a system for some cooperative organization in which he is interested.

Text: To be selected.

Prerequisite: Agricultural Economics 308, 403.

Laboratory fee, \$1.00.

(Elective in XIV).

415. *Statistics. (2-4).*

Same as course 305.

(Required in XIV).

FOR GRADUATES.

501, 502. *Advanced Marketing Problems. (3-4). Major.*

Field work. An intensive study of some marketing problem. The marketing of non-perishables; semi-perishables and perishable agricultural commodities. A paper based upon original research is required.

Text: To be selected.

Prerequisite: Agricultural Economics 301, 401.

503. *Land Problems and Land Policies. (3-4). One-half Major.*

Definitions of terms and historical setting; land defined and described; land classification; economics of agricultural land; economics of forest land; economics of mineral land; economics of water rights; economics of riparian rights; economics of urban land; economics of land for highways; economic foundations of a land policy; land policies of some of the leading European countries; land policy of the United States; Texas land policy; a sound land policy for Texas.

Text: To be selected.

Prerequisite: Agricultural Economics 312.

505. *Historical Development of Agricultural Economics. (2-4). One-half Minor.*

Agricultural economics defined and described; origin of agricultural economics; historical developments of agricultural economics in Rome, England, Germany, and France. This part of the historical work deals very largely with the biographical sketches of the writers concerned and with the history of economic conditions at the time they wrote, especially as related to agriculture; relation of agricultural economics to general economics; the early French economists, the classical economists, the critics of the classical economists; relation of agricultural economics to agriculture; the works of such men as Arthur Young, Albrecht Thaer, and Von Thunen; modern agricultural economics; relation of general economics to agriculture; recent developments in agricultural economics; relation of agricultural economics to farmers' movements; essentials of a sound agricultural economics course.

Text: To be selected.

Prerequisite: Agricultural Economics 312.

506. *Advanced Statistics. (2-4). One-half Minor.*

A study of the various series of index numbers in both the United

States and Europe; preparation of an index series based upon the main items sold from the farm and another based upon the main items bought for the farm and farm family; determination of the secular trend by the method of lease squares and by the use of the moving average. Some attention will be given to advanced problems in correlation, including partial or multiple correlation.

Text: To be selected.

Prerequisites: Agricultural Economics 301, 305; Mathematics 203 and 204.

509, 510. Agricultural Distribution. (2-4). Minor.

A study of the apportionment of the agricultural income among the factors of production. Historical development of the theory of rent, interest, wages and profits. Relation of rent to land value in theory and in practice.

Text: To be selected.

Prerequisite: Agricultural Economics 301.

DEPARTMENT OF AGRICULTURAL ENGINEERING.

PROFESSOR SCOATES, ASSOCIATE PROFESSORS SNYDER, H. P. SMITH,
ASSISTANT PROFESSOR F. R. JONES, MR. KING.

201. Farm Machinery. (2-2).

The practical study of all types of farm machinery; tilling, seeding, cultivating, harvesting, fertilizing and power machinery.

The practice consists of a detailed study of the construction, adjustment, calibration and operation of all types of farm machinery.

Demonstrations and tests are made under field conditions.

(Required in C).

203. Gas Engines. (2-2).

This course deals with the farm gas engine, its operation, care and repair. The practice consists of the operation, testing and examination of the different types of farm gas engines. Laboratory fee, \$1.50.

Laboratory fee, \$1.50.

(Required in XII; elective in C and in I).

204. Farm Machinery. (2-2).

Same as course 201.

(Required in I).

206. Gas Engines. (2-4).

Same as course 203, with two hours more laboratory. Laboratory fee, \$1.50.

(Required in XIII; elective in C).

211. Gas Engines. (2-4).

Same as course 206. Laboratory fee, \$1.50.

(Required in XV).

214. Tractors. (2-4).

Same as course 317. Laboratory fee, \$2.00.

(Required in XV).

302. *Repair of Farm Machinery.* (0-4).

The overhauling, repairing and painting of farm machinery, and the use of repair catalogues.

Prerequisite: Agricultural Engineering 201.

(Elective in I, C).

304. *Drainage.* (2-2).

A study of farm drainage, i. e., open ditches, terracing and tile drains.

Laboratory practice consists of surveying for tile drains, laying off and building terraces.

Prerequisite: Civil Engineering 319.

(Elective in I).

305. *Surveying and Drainage.* (3-4).

A study of farm surveying and the principles of farm drainage, as applied to open ditches, terracing, and tile drains.

The practice consists of surveys of various parts of the farm with tape and level, computation of areas, map making, tile laying, locating and building terraces.

Laboratory fee, 50 cents.

(Required in I, group 3; elective in all other groups and in C).

314. *Tractors.* (2-4).

Same as course 317. Laboratory fee, \$2.00.

Prerequisite: Agricultural Engineering 203.

(Required in I, group 3; elective in all other groups and in C).

316. *Irrigation.* (2-2).

A study of the principles of irrigation practice, source of water supply, and methods of application to various crops, the measurement and duty of water.

The practice consists of measuring water and the laying out of ditches and irrigation systems.

(Elective in I, C).

317. *Tractors.* (2-4).

A study of the design, operation and repair of different types of gas tractors.

The practice consists of a study of the different parts of gas tractors, with tests. Laboratory fee, \$2.00.

Prerequisite: Agricultural Engineering 203.

(Elective in I, all groups).

320. *Farm Machinery.* (2-4).

Same as course 204, with two hours more laboratory.

Laboratory fee, 50 cents.

(Required in XV).

321, 322. *Farm Shop.* (0-3).

This course is especially designed for students intending to teach agricultural engineering in vocational schools. The work includes such subjects as are usually taught in vocational high schools, such as soldering, belt lacing, rope knots and splices, concrete construction,

carpentry and sufficient forging to enable the student to make ordinary farm repairs.

Laboratory fee, \$1.25 each term.

(Required in XII; elective in C).

402. *Automobiles and Motor Trucks.* (2-4).

The study of the construction, care, repair and operation of the gasoline automobile and truck.

The practice consists of a study in the laboratory of various types of construction as applied to the different parts of the modern automobile and motor truck. Laboratory fee, \$1.50.

Text: *The Gasoline Automobile*, Hobbs, Elliott and Consoliver.

Prerequisite: Agricultural Engineering 203.

(Required in I, group 3; required in XV, elective in C).

404. *Experimental Agricultural Engineering.* (0-6).

A course for advanced undergraduates who are especially interested in solving some agricultural engineering problem.

(Elective).

409. *Farm Concrete.* (1-2).

A study of the selection of materials used for concrete, and their proper mixing, placing and curing, together with the construction of concrete structures such as are found on the farm.

The practice consists of the design and construction of molds and forms, methods of reinforcing, and proportions of mixture to be used in various farm buildings and equipment. Laboratory fee, \$1.50.

(Elective in C).

410. *Irrigation.* (2-0).

A modification of course 316.

(Required in XV).

413. *Farm Buildings.* (2-3).

The study of building materials, and of the design and location of farm buildings. Ventilation, lighting, heating, water supply, plumbing, sewage disposal are studied briefly in their relation to rural conditions.

Practice in the use and care of drawing instruments. Complete working drawings, with tracings and blue prints of farm buildings are made.

(Required in I, group 3; XV).

414. *Farm Buildings.* (0-4).

A continuation of course 413. Complete plans, specifications and bills of material are worked up for various farm buildings.

(Elective).

416. *Drainage.* (2-4).

A study of farm drainage, i. e., open ditches, terracing and tile drains. Laboratory practice consists of surveying for drains, laying off and building terraces.

Prerequisite: Civil Engineering 319.

Laboratory fee, 50 cents.

(Required in XV).

415. *Drainage.* (2-2).

Same as course 304.

418. *Designing of Farm Structures.* (2-4).

A continuation of course 413.

(Required in XV).

420. *Auto Mechanics.* (2-4).

The study of the construction, care, repair and operation of the gas engine and of the automobile.

The practice consists of the operation, testing and examination of the gas engine and the automobile. Laboratory fee, \$1.50.

(Required in XIII).

FOR GRADUATES.

501, 502. *Advanced Drainage and Irrigation.* (3-4). *Major.*

This course consists of an advanced study of farm drainage and irrigation. Recent developments in these subjects are reviewed, the student using bulletins, scientific journals and advanced text-books.

Original designs of drainage and irrigation systems are made to fit conditions on typical farms. Drainage is taken up the first term, and irrigation the second.

501a, 502a. *Advanced Drainage and Irrigation.* (2-4). *Minor.*

A modification of course 501, 502.

DEPARTMENT OF AGRONOMY.

PROFESSOR MORGAN, PROFESSOR HUMBERT, ASSOCIATE PROFESSORS
WOOD, STALLINGS, ASSISTANT PROFESSOR POLLOCK,
MR. CORPENING.

102. *Field Crops.* (3-2).

This course includes a detailed study of the following field crops: cotton, corn, wheat, oats, rye, barley, rice, the saccharine and non-saccharine sorghums, sugar cane and peanuts. Each crop is considered from the standpoint of origin, varieties, improvement, tillage practices, harvesting and uses.

Text: *Field Crops for the Cotton Belt*, Morgan.

In the laboratory, field, and greenhouse, the student makes a detailed study of the important characteristics of these crops, including varietal studies. Special consideration is given to the seeds of these crops, particularly as regards those points that determine value.

Laboratory fee, 50 cents.

(Required in XIV).

103. Field Crops. (3-2).

Same as course 102.

Laboratory fee, 50 cents.

(Required in I).

202. Field Crops. (3-2).

Same as course 102.

Laboratory fee, 50 cents.

(Required in XII).

301. Soils. (3-2).

This course gives the student a rather comprehensive knowledge of the soil and its management. It is given according to the following outline:

(a) The soil as a medium for root development, including a study of rock and its products; the soil mass, together with the physical properties of the soil and their modification; the organic content of the soil.

(b) The soil as a reservoir for water, including the functions of water in plant growth; the amount of water in the soil; the movement of soil water, and the control of soil water.

(c) Plant nutrients in the soil, including a careful study of both micro-organisms and macro-organisms, as they influence soil productivity.

(d) The soil air; composition and functions of.

(e) The heat of the soil; comprising a study of the sources, functions and means of modifying soil temperature.

(f) External factors in soil management; tillage, crop adaptation, etc.

Text: Soils, Lyon and Buckman.

In the laboratory the student applies the principles learned in the class room to the actual management of soils. Laboratory fee, 50 cents.

Prerequisite: Chemistry 101, 102.

(Required in I, XII; elective in XIV).

302. Farm Crops. (3-2).

In this course all the leading field crops are studied with regard to structure; composition, races and varieties, breeding or improvement, soils, rotations, fertilizers, together with tillage operations, harvesting and marketing.

Texts: Field Crops for the Cotton Belt, Morgan; Forage Plants and Their Culture, Piper.

In the laboratory, field, and greenhouse, the student makes a careful study of the leading characteristics of the different crops; seeds are studied as regards purity, and other points that determine value.

Laboratory fee, 50 cents.

(Required in I, XII).

305. Genetics. (2-2).

This course comprises a fundamental study of the resemblances and differences in individuals related by descent, to the end that these relationships may be accounted for.

The important divisions of the work as presented are as follows: variation, including a statistical study of variation; the various phases of Mendelism, including the physical basis of Mendelism, independent Mendelian inheritance, linkage relations in Mendelism, the nature and expression of Mendelian factors, allelomorphic relationships in Mendelism; inheritance of sex and related phenomena; species hybridization; pure lines; mutations.

Text: Genetics, Walter.

In practice the student makes such studies in the laboratory, greenhouse and field as will give him first-hand acquaintance with the phenomena of variation and heredity.

Prerequisite: Biology 101, 102, 201, 202.

Laboratory fee, 50 cents.

(Required in I, groups 4, 5, 7, 9, XII; elective in X).

306. *Plant Breeding.* (2-2).

This course deals with the various methods applicable to the improvement of our common field, forage, and horticultural crops. These methods are considered primarily from the standpoint of their technique and relative value.

Text: Breeding Crop Plants, Hayes and Garber.

In the greenhouse and field laboratory, practice in hybridizing field, forage and horticultural crops, and also in making field selections is given.

Prerequisite: Agronomy 305.

Laboratory fee, 50 cents.

(Required in I, group 4).

308. *Forage Crops.* (2-2).

This course includes a detailed study of the problems of forage production. It is given in accordance with the following outline: A general consideration of grasses and legumes as forage producers; the preservation of forage; the choice of forage crops; forage crop seeds as regards genuineness, purity, viability, adulterations, source, and seeding practice; permanent and temporary meadows; permanent and temporary pastures; a detailed study of the important hay and pasture crops adapted to southern agriculture.

Text: Forage Crops, Piper.

The practice includes a field and laboratory study of the various forage crops, and a laboratory study of forage crop seeds as regards all points that determine value.

Laboratory fee, 50 cents.

(Required in I, XII; elective in XIV).

312. *Genetics.* (2-2).

A continuation of course 305.

(Elective in X).

405. *Grain Grading.* (1-4).

This course is designed for students who desire to become licensed grain inspectors, or who expect to engage in the grain business from

the standpoint of production or marketing. Detailed instruction is given in the matter of grading grains according to the Federal standards established by the recent Grain Standards Act. In the theory the work deals largely with the provisions of the United States Grain Standards Act as regards its value in foreign, interstate, intrastate and local trade, the organization to carry out the provisions of the act, and the bases upon which the grades are established. The practice work is devoted entirely to the commercial grading of wheat, corn (both in the ear and shelled), oats, rice, and the grain sorghums (both in the head and the threshed grain).

Laboratory fee, \$2.00.

(Elective.)

406. *Soil Mapping.* (0-3).

In this course special consideration is given to the methods employed in classifying soils, and the benefits derived from soil survey work.

The students make a field study of the various soil types found in the surrounding locality. This area is surveyed and mapped according to the methods employed by the Bureau of Soils of the United States Department of Agriculture. In this work the student is taught the use of the plane table and map making.

Prerequisite: Agronomy 301.

(Elective.)

407. *The Principles of Dry Farming.* (3-0).

This course deals specifically with the accepted principles of soil management and crop production in regions of limited rainfall.

(Elective.)

410. *Soil Fertility.* (2-2).

A special study of the various fertility factors and the influence of different methods of soil treatment and management upon these factors. The student makes a detailed study of soils taken from especially selected experimental plots, and if possible from the student's home farm. Laboratory fee, \$1.00.

Prerequisite: Agronomy 301.

(Required in I, group 4).

412. *The Origin, Classification and Breeding of Cotton.* (2-2).

The work of this course falls into three divisions, as follows:

(1) A study of the known species of cotton from the standpoint of our present knowledge of their origin and classification;

(2) The characteristics and adaptation of the more important varieties of cotton;

(3) Inheritance studies in cotton.

Prerequisite: Agronomy 305.

(Elective.)

FOR GRADUATES.

501, 502. *Advanced Farm Crops.* (3-4). *Major.*

This course comprises an advanced study of field crop production and breeding. The course of study is so directed as to cover as thor-

oughly as possible the results of the more recent and noteworthy investigations relative to the various phases of crop production and breeding. A thesis, based upon original investigation, is required as part of this course.

501a, 502a. Advanced Farm Crops. (2-4). Minor.

A modification of course 501, 502.

503, 504. Advanced Genetics. (3-4). Major.

This course includes a specialized study of the more important principles of inheritance. Plant and animal material is provided with which the student may study at first hand the inheritance of those characters in which he is particularly interested.

503a, 504a. Advanced Genetics. (2-4). Minor.

A modification of course 503, 504.

505, 506. Advanced Soils. (3-4). Major.

This course consists of two parts: (1) a concise account of our present knowledge of the soil as a medium for plant life; (2) a detailed study of the more recent and noteworthy investigations pertaining to soils and soil fertility. Free use is made of such publications as "Soil Conditions of Plant Growth," by E. F. Russell; "Soil Science," "The Journal of Agricultural Research," and "The Journal of American Society of Agronomy." A thesis, based upon original investigation, is required as a part of this course.

505a, 506a. Advanced Soils. (2-4). Minor.

A modification of course 505, 506.

FOR STUDENTS IN SHORT COURSES.

25. Soils. (3-2).

This is an elementary study of the origin, structure, texture, and crop adaptations of agricultural soils. Soil fertility and its maintenance; manures, fertilizers, cover crops, fallowing, fall and spring plowing, crop rotations, diversification, and the renovation of worn-out soils receive attention in their proper order.

Text: Productive Soils, Weir.

Laboratory and field studies on the water holding capacity of soils, capillarity, the influence of organic matter on the physical properties of soils, lime and its effects on soils, constitute a part of the course. Laboratory fee, 50 cents.

(Required in C).

30. Elementary Crop Production. (3-2).

This course consists of an elementary study of the leading field and forage crops, special emphasis being placed on those crops primarily adapted to southern agriculture.

Text: Productive Farm Crops, Montgomery.

The practice consists of a field and laboratory study of farm crops, noting particularly those points that constitute ideal seed plants. When

opportunity permits, the improved practices involved in crop production are studied in the field.

Laboratory fee, 50 cents.

(Required in C).

55. *Elementary Crop Improvement.* (2-2).

This course includes a study of the elementary principles of inheritance and their application to the improvement of farm crops.

(Elective in C).

DEPARTMENT OF ANIMAL HUSBANDRY.

PROFESSOR TEMPLETON, PROFESSORS STANGEL, WILLIAMS, CONWAY,
ASSOCIATE PROFESSORS BUCHANAN, REGENBRECHT, ASSISTANT
PROFESSOR WALSER, MR. HALE.

The courses in the Department of Animal Husbandry may be grouped under the four main heads:

- (1) The Judging of Live Stock.
- (2) The Breeding of Live Stock.
- (3) The Feeding of Live Stock.
- (4) The Management of Live Stock.

The courses are as follows:

101. *Judging Market Types of Beef Cattle and Sheep.* (0-4).

The lectures are explanatory of the various classes and grades of beef cattle and sheep recognized in the leading stock markets. The points of these and their value to the stockman, the butcher and the consumer are fully discussed. The practice embraces a thorough training in the scoring of fat cattle and fat sheep; supplemented by the study of dressed beef carcasses as far as possible. Comparative judging constitutes an important part of the work.

Text: Types and Market Classes of Live Stock, Vaughn.

Laboratory fee, 75 cents.

(Required in I, XIV, C).

102. *Judging Market Types of Horses and Swine.* (0-4).

The classes and grades of horses and swine recognized in the leading markets are discussed fully. The distinction of classes, and their importance, is made clear by the further use of the score card. Comparative judging is also an important factor in this course.

Text: Types and Market Classes of Live Stock, Vaughn.

Laboratory fee, 75 cents.

(Required in I, XIV, C).

106. *Farm Poultry.* (2-2).

Same as course 201.

Laboratory fee, 75 cents.

(Elective in C).

201. Farm Poultry. (2-2).

This is a general course on farm poultry and treats of the breeds and types of poultry; the principles of breeding and mating of fowls; incubation and brooding; feeding for growth and egg production; winter and summer management; housing and hygiene; sanitation; disease; parasites and their treatment; preparing poultry for market; marketing. It deals with the practical application of these principles to general farm conditions.

Text: Poultry Production, Lippincott.

The practice work consists of the study of breeds and types, incubators and brooders, housing, judging of fancy and utility poultry, candling and grading of eggs and poultry products, killing and dressing poultry.

Laboratory fee, 75 cents.

(Required in XII; elective in I).

202. Judging Breed Types of Cattle, Horses, Sheep and Swine. (2-2).

The lectures in this course treat of the origin, history, characteristics and adaptability of the various breeds of live stock. As far as the equipment in live stock will permit, the student is shown by means of representative animals the best types of the breeds of cattle, horses, sheep and swine.

Text: Types and Breeds of Farm Animals, Plumb.

The score cards of the different breed associations are used in determining the merits of the animals, and these are further explained in the lectures. An important part of the practice consists of comparative judging similar to that of the show ring.

Prerequisite: Animal Husbandry 101, 102.

Laboratory fee, 75 cents.

(Elective in I).

204. Judging Market and Breed Types of Cattle, Horses, Sheep and Swine. (2-4).

The work in both theory and practice is similar to that presented in courses 101, 102 and 202, but less extensive on account of the shorter time given to it.

Text: Judging Farm Animals, Plumb.

(Required in XI).

211, 212. Market Types. (0-4).

Same as course 101, 102.

Laboratory fee, 75 cents each term.

(Required in XV).

302. Animal Breeding. (3-0).

A study of the principles of animal improvement which form the basis of proper selection and mating for the production of pure bred live stock and market animals. The course includes a discussion of the subjects of reproduction, variation, heredity, selection, and the various methods of breeding, which include line breeding, inbreeding, cross-

ing, grading, and other subjects connected with the breeding and improvement of farm animals.

Text: *The Breeding of Animals*, Mumford.

Practice consists largely of a study of the results obtained with the various breeds comprising the College herds. Training is given in the use of herd books, which involves the tabulation of pedigrees of representatives of the different breeds.

Prerequisite: Biology 201, Agronomy 305.

(Required in I, group 5; XI).

303. *Animal Nutrition.* (3-2).

This subject involves a study of the fundamental principles of live stock feeding, including the composition and digestibility of feeding stuffs, the disposition made of the different feed constituents by the animal organisms, and, finally, the methods of calculating rations for the various classes of farm animals, cattle, horses, sheep, and swine. Students are required to use a text-book and that is supplemented by lectures.

Text: *Feeds and Feeding*, Henry and Morrison. Lectures.

The practice consists chiefly in calculating rations and in working out problems relating to the economic side of live stock feeding.

Prerequisite: Chemistry 206.

(Required in I, group 5).

403. *Advanced Judging.* (0-6).

The lectures of this course treat further of the most approved types of pure-bred animals and of those used for the common market.

Classes of the different kinds of live stock are selected as similar as possible to those which come together in the show rings of exhibitions and the work of competitive judging among the students is given much prominence.

405. *Herd Book Study.* (0-4).

The first part of the work consists of training in the intelligent use of herd books, involving practice in the tabulation and study of pedigrees of famous animals. This is followed by a study of the blood lines of the breed or breeds of live stock which the student intends to produce, in order to familiarize him with the best strains and individuals of the breed. Practice is also given in the necessary incidentals connected with the registration of animals, such as rules of entry, application for transfer, etc.

Prerequisite: Animal Husbandry 302.

(Elective).

406. *Beef Cattle Production.* (3-2).

This course comprises a study of the raising of beef cattle as a business, including the most important features of production and marketing. The best methods of producing beef under both stock farming and ranching conditions, together with the details of management in each case, are fully discussed. Special attention is given to the management of pure-bred herds and the keeping of herd records.

The practice consists of the actual work of handling beef cattle, in developing them, and in preparing them for show and sale.

Prerequisite: Animal Husbandry 302, 303.

(Elective).

409. *Animal Nutrition and Live Stock Feeding.* (3-2).

This is a combined course, involving the principles of animal nutrition and a study of the feeding of all classes of farm animals, cattle, horses, sheep, and swine. The subject of animal nutrition, the composition of available feeding stuffs, and the calculating of rations are treated fully.

Text: Feeds and Feeding, Henry and Morrison.

The practice consists of calculating rations; studying the results of feeding tests conducted by this and other Experiment Stations; and studying practical feeding operations.

(Required in I, group 4; XI).

410. *Sheep and Wool Production.* (3-2).

The raising of sheep is studied in full detail, both under farm and range conditions. Special attention is given to the management of pure bred flocks and the keeping of records. The production of wool is taken up, including improved methods of marketing, market grades, and factors determining the value of wool.

The practice consists of the actual handling of the flock, including feeding, shearing, docking, trimming feet, blocking for show, etc.

Prerequisite: Animal Husbandry 302, 303.

(Elective).

411. *Poultry Breeding and Management.* (2-2).

This course involves a thorough study of the principles of poultry breeding, especially their application to the inheritance of egg production. A study of all poultry literature bearing on this subject occupies the first part of the course. Experiments dealing with certain phases of breeding are conducted during the course.

Prerequisite: Animal Husbandry 201.

Text: Poultry Breeding and Management, Dryden.

(Elective).

Course 411 is repeated in the second term.

412. *Swine Production.* (3-2).

A detailed study is made of the problems that confront the breeder and feeder of pure-bred and market hogs. The following items are considered: Review of hog situation, adaptation of breeds, breeding, feeding, dry lot and forage crops, housing, fencing, equipment, fitting for show, showing, sanitation and disease control, marketing, killing and curing products, keeping records.

The actual work of handling is done in the practice.

Prerequisite: Animal Husbandry 302, 303.

(Elective).

413. *Horse Production.* (3-2).

This course involves a more advanced study of market types and breeds of horses; a statistical study of the horse and mule industry;

the breeding, feeding, and management of horses and mules. Special attention is given to the care of the stallion, brood mare, and foal. The work of horse registry associations and the influence of stallion laws are reviewed.

Practice consists of the actual handling of horses, including the training of colts, care and fitting of harness, fitting for sale and show, shipping, horseshoeing, and barn sanitation.

Prerequisite: Animal Husbandry 302, 303.

(Elective).

414. *Commercial Poultry Farming.* (2-2).

This course will include the laying out and developing of large poultry plants, the handling and management of commercial flocks, houses, incubators, brooders and other poultry appliances suitable for such enterprises; advertising, capital required, analysis of business and other similar problems. Each student will devote considerable time to a problem in production: feeding, incubation, rearing or fleshing.

Prerequisite: Animal Husbandry 201, 411.

(Elective).

416. *Live Stock Management.* (3-2).

This course includes a study of the practical problems of breeding, feeding, and management of live stock. A major portion of the time allotted to this course will be devoted to the problems of producing market animals.

Practice will consist of the actual feeding and handling of the various classes of live stock.

Prerequisite: Animal Husbandry 101, 102 and 409.

(Elective).

FOR GRADUATES.

501, 502. *Advanced Animal Nutrition.* (3-4). *Major.*

This course involves a study of the more recent investigations in animal nutrition: methods of investigation as well as results are given consideration. Experiment Station literature, scientific journals, and advanced text-books on nutrition are reviewed by the student, who is required to attend class three hours weekly for lecture, recitation, or conference.

501a, 502a. *Advanced Animal Nutrition.* (2-4).

A modification of course 501, 502.

FOR STUDENTS IN SHORT COURSES.

52. *The Breeding of Live Stock and the Study of Pedigrees.* (2-2).

The lectures in this course treat of the principles of breeding and the methods used in the practice of breeding horses, cattle, sheep and swine,—pure-bred animals, as well as those for the common market.

Text: *The Breeding of Animals*, Mumford.

The practice consists principally of the study of pedigrees. Students are required to trace out the blood lines of some of the most noted

animals of each breed of live stock in order that they may obtain a knowledge of the combinations that have produced the best results.
(Elective in C).

55. *Live Stock Feeding.* (2-2).

This course embraces a study of the feeding of all classes of farm animals, cattle, horses, sheep and swine. The subject of animal nutrition, the composition of available feeding stuffs and the calculating of rations, are treated fully.

Text: Feeds and Feeding, Abridged, Henry and Morrison.

The practice consists largely of calculating rations for different classes of farm animals, special attention being given to the study of Texas grown feeding stuffs.

(Elective in C).

58. *Live Stock Management.* (2-2).

The raising of horses, cattle, sheep and swine is discussed in full detail, covering all features of management in production and marketing. Special attention is given to the management of pure-bred herds and flocks and to the keeping of private herds and record books.

The practice in live stock management consists of actual work in preparing different classes of stock for show and sale. The student is given instruction in trimming and shearing sheep, washing and curling the coats of cattle, polishing horns and hoofs, etc. The work on horses consists of grooming, fitting harness, and decorating manes and tails.

Prerequisite: Animal Husbandry 55.

(Elective in C).

DEPARTMENT OF ARCHITECTURE.

PROFESSOR LAROCHE, PROFESSOR JUNE, ASSOCIATE PROFESSOR GILL.

101. *Architectural Drawing.* (0-4).

A series of plates given primarily as exercises in draftsmanship, but also with the intention of introducing simple architectural details. The correlation of plan, elevation and section is thoroughly studied.

(Required in IX).

102. *Elements.* (0-4).

The study of architectural form through the classic orders of architecture, which are studied as examples of proportion rather than as definite mathematical systems. In this course an application of the theory of shades and shadows and perspective is made to the forms studied, and the subject of wash drawings introduced.

(Required in IX).

104. *Shadows and Perspective.* (2-0).

The principles of descriptive geometry which underlie the methods of casting shades and shadows are reviewed and firmly fixed in the student's mind. First, these are applied in finding shades and shadows on simple geometrical forms; then their application to forms of more dif-

ficult architectural character are taken up. The second half of the term is given to a study of the most approved methods of drawing in perspective projection. This course is co-ordinated with course 102.
(Required in IX).

201, 202. *Design (Elementary).* (0-10, 0-14).

A series of simple rendered problems involving the use of the orders and the study of composition; library research.

(Required in IX, group 1, both terms; group 2, first term).

207, 208. *History of Architecture.* (2-0).

Egyptian, Western, Asiatic, Greek, Roman, Early Christian, Byzantine, Romanesque, and Gothic styles.

Written quizzes; tracings; research; lectures.

Text: *History of Architecture*, Kimball and Edgell.

(Required in IX, groups 1, 2).

209. *Principles of Design.* (1-0).

Lectures on composition as applied to Architectural Design. The preliminary sketch; methods of study and presentation. Library assignments and reports.

(Required in IX, group 1).

217. *Elements of Mechanics.* (3-0).

The fundamental principles of mechanics are studied with particular emphasis placed on analytical statics. Numerous problems are solved to bring out the practical application of the theory taught.

Text as assigned.

Prerequisite: Mathematics 101, 102, 103.

(Required in IX, group 1).

218. *Mechanics of Materials.* (3-0).

Strength of materials; direct stresses; flexural stresses; secondary stresses. Beams; columns; struts; riveted joints. The practical problems given are taken from actual constructional conditions, whenever possible.

Text as assigned.

Prerequisite: Architecture 217.

(Required in IX, group 1).

301, 302. *Design (Intermediate).* (0-15).

A series of major and sketch problems in design, composition and planning throughout the year. The student is taught to think out his own solution to various given conditions. Under the instructor's criticisms his work is logically developed and attractively presented. Library research.

(Required in IX, group 1).

309. *History of Architecture.* (2-0).

Renaissance and modern architectural styles.

Written quizzes; tracings; research; lectures.

Text: *History of Architecture*, Kimball and Edgell.

(Required in IX, groups 1, 2).

311, 312. *Design.* (0-12).

Similar to courses 301, 302, but with application to buildings of a more utilitarian nature such as power plants, factories and store houses.
(Required in IX, group 2).

316. *Mechanical Equipment.* (3-0).

Water supply, sanitation and plumbing. Heating and ventilation. Wiring and illumination. The fundamentals of these subjects are covered by means of lectures and assigned problems.

Text as assigned.

(Required in IX, groups 1, 2).

317. *Framed Construction.* (2-3).

The design of wood and steel frames as used in building construction. Graphics and roof truss design are emphasized.

Text as assigned.

Prerequisite: Architecture 217, 218).

(Required in IX, group 1).

318. *Reinforced Concrete.* (3-3).

Theory of reinforced concrete, and the design of columns, girders, beams and slabs.

Text as assigned.

Prerequisite: Architecture 217, 218.

(Required in IX, group 1).

401, 402. *Design (Advanced).* (0-18, 0-20).

This course is a continuation of the work in Agricultural Design with more advanced problems in planning, composition and presentation.

(Required in IX, group 1).

406. *Professional Practice.* (2-0).

A series of lectures on the law of contracts; specifications; professional practice; ethics and professional and inter-professional relationships.

(Required in IX, groups 1, 2).

407. *History of Art.* (1-0).

The history of painting, sculpture and architectural ornament. The aim of this course is to give an appreciation of the various schools of painting and sculpture, and an analysis of historic styles of decoration as applied to architecture.

(Required in IX, groups 1, 2).

411, 412. *Structural Design.* (0-14).

A set of working structural drawings with schedules and calculations is made of a representative building designed by the student, wood and steel framing and foundations being especially emphasized.

Text: Building Handbooks.

(Required in IX, group 2).

414. Modern Architecture. (1-0).

An analysis of modern buildings in respect to the influences of historic styles; also in respect to materials and methods of construction used. The requirements of special types of buildings such as schools, libraries, theaters, hospitals, etc., are studied. Lectures and reports.

(Required in IX, groups 1, 2).

DEPARTMENT OF BIOLOGY.

PROFESSOR BALL, ASSOCIATE PROFESSORS PRATT, HARPER, ASSISTANT PROFESSORS H. BURT, ENGLISH, STUPPY.

BOTANY.**101, 102. General Botany. (2-4).**

The aim of this course is to provide the student who looks forward to entering some field of work in agriculture with an accurate and thorough knowledge of living plants. The point kept steadily in view is, therefore, physiologic rather than anatomic. The first term begins with an outline of the external and internal form and structure necessary to the more extended study of life processes of plants. In the second term, types of various subdivisions of the plant kingdom are used to illustrate the great fundamental principles of development and adaptation, and to serve as a foundation for later work in classification.

The plan of the laboratory work is based on the inductive principle; the student is trained to acquire facts of development, structure and function by direct observation. Each student is required to keep a notebook in which he records by drawings and notes the results of his work.

Text: College Botany, Martin.

Laboratory fee, 50 cents each term.

(Required in I, XI, XII, XIV).

103, 104. General Botany. (2-4).

This course differs from the preceding in being more thorough and advanced.

Text: Botany of the Living Plant, Bower.

Laboratory fee, \$1.00 each term.

(Required in X).

303, 304. Plant Physiology. (2-4).

An advanced course in physiology is here offered in which the functions of respiration, assimilation and nutrition receive especial attention. The course is designed for those who wish to pursue work of higher character in the field of general agricultural botany and at the same time to give, in the practical work, an introduction to the methods of research.

Text: Physiology of Plants, Green.

Laboratory Manual: Practical Physiology of Plants, Darwin and Acton.

Prerequisite: Biology 103, 104.

Laboratory fee, \$1.00 each term.

(Elective in X).

316. Plant Diseases. (2-4).

This course begins with a study of the biology and classification of fungi with special reference to pathogenic forms. Types of the more important plant diseases occurring in Texas are selected for study and the student is trained to investigate and identify the cause of the trouble and is shown appropriate corrective measures. Plant diseases due to other causes receive attention within the limits of time and material.

In the laboratory, the student studies the form, structure, and biology of selected fungi and learns routine methods of cultivation and identification. Diseased plants are placed before him for individual study and he is instructed in the diagnosis of each disease.

Laboratory fee, \$1.00.

Text: *Fungus Diseases of Plants*, Duggar.

Prerequisite: Biology 101, 102.

(Elective).

403, 404. Plant Pathology. (2-4).

An introduction to systematic mycology in the first term, which is then followed by a study of the more important diseases of plants.

Text: *Fungi Which Cause Plant Diseases*, Stevens.

Prerequisite: Biology 103, 104, 311, 312.

Laboratory fee, \$1.00 each term.

(Elective in X).

ZOOLOGY.

203, 204. General Zoology. (2-4).

A course dealing with the fundamental principles of classification, morphology and physiology of the various phyla of the animal kingdom, together with a discussion of life-histories and habits of representative species. In the laboratory, type specimens are dissected.

Text: *Manual of Zoology*, Hertwig-Kingsley.

Laboratory fee, \$1.00 each term.

(Elective in X).

207. General Zoology. (2-4).

The essential aims and plan outlined in the work in botany are continued in this course. Especial attention is given to forms of economic importance. Types of the various great groups of animals are considered as illustrating origin, development and distribution. Careful dissection and study of type forms, with notes and drawings are required in the laboratory work.

Laboratory fee, \$1.00.

Text: *College Zoology*, Hegner.

(Required in I, XII).

208. General Zoology. (2-4).

Same as course 207.

Laboratory fee, \$1.00.

(Required in XI).

317, 318. Comparative Vertebrate Zoology. (2-4).

A detailed study of the anatomy of type chordates is undertaken from a comparative viewpoint. The lectures deal with the progressive de-

velopment and evolution of the organs and organ systems, while in the laboratory the anatomy of the shark, fish, amphibian and mammal are carefully studied.

Text: Comparative Anatomy of Vertebrates, Kingsley.

Laboratory Manual for Comparative Vertebrate Anatomy, Hyman.

Prerequisite: Biology 203, 204.

Laboratory fee, \$1.00 each term.

(Elective in X).

419, 420. General Embryology. (2-4).

A course dealing with the development of the frog, pig and chick. In the laboratory a detailed study is made of both preserved and living material.

Text: Text-book of Embryology, Prentiss.

Prerequisite: Biology 203, 204, 317, 318.

Laboratory fee, \$1.00 each term.

(Elective in X).

427, 428. Invertebrate Zoology. (3-4).

A specialized study of invertebrate animals (excepting insects) is here offered, with emphasis upon their economic relations.

Text: To be assigned.

(Elective).

BACTERIOLOGY.

206. Introductory Bacteriology. (1-4).

This course is designed as an introduction to a more extended study of the nature and relations of bacteria. The laboratory work comprises, in part, the preparation of culture media; of pure cultures; staining and microscopic technique; methods of identification, etc.

Laboratory Manual: Laboratory Methods for Beginners in Bacteriology.

Text: Bacteriology, Buchanan.

Laboratory fee, \$1.50.

Prerequisite: Biology 101, 102.

(Required in I, XI).

305. Soil Bacteriology. (1-4).

For students desiring more specialized and extended work than offered in 206.

Text: To be assigned.

Prerequisite: Biology 206.

Laboratory fee, \$1.50.

(Elective).

309, 310. General Bacteriology. (2-4).

In this course, the general nature and relations of bacteria, as exhibited in the study of selected types, will be considered.

In the laboratory, routine methods of isolation, preparation, and study of pure cultures; technical microscopy of bacteria, etc.; occupy the time allotted.

Text: General Bacteriology, Jordan.

Laboratory Manual: A Manual of Bacteriology, Reed.

Laboratory fee, \$1.00 each term.

(Elective in X).

331. *Dairy Bacteriology.* (2-4).

Application of bacteriology to dairy practices; physiological activities of bacteria; factorial analysis of dairy products; dairy sanitation; bacteriology of diseases of dairy cattle; pasteurization practice and methods used in public health laboratories.

Text: Milk, Heineman.

Prerequisite: Biology 102, 206.

(Elective).

409, 410. *Advanced Bacteriology.* (2-4).

This course is designed for students who elect special work in bacteriology and will be adapted to the needs of the groups making the selection.

Laboratory fee, \$1.00 each term.

Prerequisite: Biology 103, 104; 309, 310.

(Elective in X).

418. *Water Bacteriology.* (2-4).

The relations of bacteria and similar organisms to water, and water supplies, sewage and sewage disposal will be thoroughly considered.

The laboratory work consists of preparation of culture media; qualitative and quantitative analysis of water, sewage and sewage effluents.

Text: To be selected.

Laboratory fee, \$1.50.

(Required in IV, group 2; elective in IV, group 1; VIII).

FOR GRADUATES.

501, 502. *Vegetable Morphology.* (3-4). *Major.*

The life histories of various types of plants beginning with the lower forms and extending throughout the Angiosperms are studied with special reference to structure and reproduction. Special attention is given to the origin and development of sex, the vascular system, the flower, etc., and to the alternation of generations.

The laboratory work includes among other things training in the preparation of permanent microscopic slides.

No text is used, but numerous references are given to publications available to the student.

Laboratory fee, \$5.00 each term.

501a, 502a. *Vegetable Morphology.* (2-4). *Minor.*

A modification of course 501, 502.

Laboratory fee, \$5.00 each term.

503, 504. *Advanced Vertebrate Zoology.* (3-4). *Major.*

An advanced course in zoology. The theory deals with the comparative anatomy of vertebrate types. The origin, development and

evolution of the organs and organ systems, together with the anatomical evidence of evolution are emphasized. Laboratory work; detailed dissection of selected vertebrate types.

Text: Comparative Anatomy of Vertebrates, Kingsley; and Text-book of Zoology, Parker and Haswell, Vol. 2.

Laboratory fee, \$5.00 each term.

503a, 504a. *Advanced Vertebrate Zoology.* (2-4). *Minor.*

A modification of course 503, 504.

Text: Vertebrate Zoology, Newman.

Laboratory fee, \$5.00 each term.

505, 506. *Advanced Bacteriology.* (3-4). *Major.*

Advanced methods of bacteriological analysis of water; of milk and foods; of sewage.

Texts: Monographs on the special topics.

Laboratory fee, \$5.00 each term.

505a, 506a. *Advanced Bacteriology.* (2-4). *Minor.*

A modification of course 505, 506.

Laboratory fee, \$5.00 each term.

DEPARTMENT OF CHEMISTRY AND CHEMICAL ENGINEERING.

PROFESSOR HEDGES, PROFESSORS THORNTON, BRAYTON, BURCHARD,
ASSOCIATE PROFESSORS STONE, FISH, ASSISTANT PROFESSORS
MOORE, SCHAEER, KOENIG, B. C. JONES, MR. SPIETH, MR.
HARTER, MR. BAUER, MR. HENDREY, MR. VOGES,
MR. MIDDLETON.

CHEMISTRY.

101, 102. *General Inorganic Chemistry.* (3-3).

In this course the foundation principles of all chemical activity are fully discussed and demonstrated. The chemical elements and their compounds are then taken up separately and systematically. Industrial applications of the more important chemical processes are briefly described, and organic chemistry is touched upon. This course must precede all other chemical studies. An elementary course in physics should precede or accompany this course.

Text: General Chemistry, McPherson and Henderson.

General laboratory work, duplication of lecture experiments and simple tests of technical importance. The laboratory work of the second term deals with qualitative analysis.

Laboratory fee, \$3.50 each term.

(Required in all four-year courses except X).

103, 104. Inorganic Chemistry. (3-4).

The same as course 101, 102, with the addition of one hour of laboratory practice per week.

Laboratory fee, \$3.50.

(Required in X).

201, 202. Organic Chemistry. (3-4).

Same as course 301, 302.

Laboratory fee, \$6.00 each term.

(Elective in X).

205. Qualitative Analysis. (2-8).

This course includes both the theory and practice of fundamental analytical operations and is designed to enable the student to make a rapid and accurate analysis of substances of average complexity, and to understand the steps by which his results are obtained. In the theory the principles upon which the laboratory work is based are explained and discussed, and the student's knowledge rigorously tested by oral and written exercises.

The laboratory work consists of a study of the properties and reactions of the more common basic and acidic radicals, their separation and identification from mixtures, the methods of getting solids into solution for analysis and the analysis of unknown substances. The number of substances analyzed varies with their nature and complexity.

Text: Qualitative Analysis, Steiglitz, Part I, and Noyes.

Laboratory fee, \$6.00.

Prerequisite: Chemistry 101, 102.

(Required in VIII).

206. Organic Chemistry. (3-2).

The subject is treated primarily as a pure science. An effort is made to select for illustrations such compounds as are of interest to the student of agriculture.

Text: Organic Chemistry, Moore.

In the laboratory a study is made of the properties and typical reactions of the compounds discussed in the lectures.

Laboratory fee, \$2.50.

Prerequisite: Chemistry 101, 102.

(Required in I, VI, XI, XII).

207. Quantitative Analysis. (2-3).

This course is designed to meet the requirements of mechanical and textile engineering students, and is preparatory to advanced courses in those departments. The laboratory exercises are explained in detail, general deductions drawn, and the student's knowledge of the subject tested by short oral and written exercises. A considerable portion of the class-room time is devoted to chemical calculations involved in the practice.

The laboratory work consists of a number of carefully selected experiments in quantitative analysis designed to typify operations of general application.

Laboratory fee, \$3.00.

Prerequisite: Chemistry 101, 102.

(Required in III, VI).

208. *Technical Analysis.* (1-4).

This course is designed to give the student an insight into the methods employed in the analysis of materials connected with his profession and the application of the results obtained to practical problems. The work in the laboratory is discussed and explained, and its application to engineering problems emphasized.

In the laboratory fuels, steels, cements, waters for industrial purposes, and industrial products commonly met with, are analyzed by rapid technical methods.

Laboratory fee, \$3.00.

Prerequisite: Chemistry 207.

(Required in III, VI).

301, 302. *Organic Chemistry.* (3-4).

The lectures and recitations serve as an introduction to the chemistry of the compounds of carbon. A study is made of the general principles, and attention is called to their application to various industrial processes.

The laboratory work serves as a basis for the course. The student here familiarizes himself with the reactions, properties and relations of typical organic compounds.

Laboratory fee, \$6.00 each term.

Text: Organic Chemistry, Norris.

Prerequisite: Chemistry 101, 102.

(Required in VIII).

305. *Organic Chemistry.* (3-2).

Same as course 206.

Laboratory fee, \$2.50.

(Required in VI).

308. *Dyeing.* (1-4).

This course consists of a study of the physical and chemical properties of textile fibers, dyes, dyestuffs, and mordants, together with the principles and appliances involved in the commercial coloring of textiles, especially of cotton and woolen goods.

Most of the principles discussed in the theory are tested in the laboratory, with especial attention to the production of dyeing to meet particular commercial requirements.

Laboratory fee, \$2.00.

Prerequisite: Chemistry 305.

(Required in VI).

309. *Agricultural Chemistry.* (3-3).

This is a study of the fundamental chemical principles of agriculture, and in addition to giving the student a grasp of the application of chemistry, it helps to understand the chemical terms used in Experi-

ment Station literature. The chemistry of plant substances, soils, irrigation water, fertilizers, insecticides, and fungicides is studied.

The laboratory work serves to familiarize the student with the composition and behavior in the laboratory of many materials important in agriculture. It consists of the chemical analysis of feeds, soils, fertilizers, insecticides and fungicides.

Text: Chemistry of Agriculture, Stoddard.

Laboratory Manual of Agricultural Chemistry, Hedges and Bryant.

Prerequisite: Chemistry 206.

Laboratory fee, \$3.00.

(Required in I, XII).

315. *Qualitative Analysis.* (2-8).

Same as course 205.

Laboratory fee, \$6.00.

(Elective in X).

410. *Water Treatment.* (1-3).

This course is designed to impart a knowledge of the methods employed in the analysis of waters for industrial and potable purposes, of the interpretation of the results of such analyses, and of the methods employed in water purification. Attention is also directed to the nature and analysis of sewage, and its purification.

Laboratory fee, \$3.00.

Prerequisite: Chemistry 307.

(Elective in IV, group 2).

418. *Technical Analysis.* (1-4).

Same as course 208.

Laboratory fee, \$3.00.

(Required in I, group 3).

428. *Advanced Organic Chemistry.* (2-4).

This course is a continuation of Chemistry 301 and 302 in the study of more complex compounds, especially of those related to the industries.

Laboratory fee, \$5.00.

The laboratory experiments are chosen to correlate with the theory work.

(Elective in VIII).

438. *Seminar.* (1-0).

(Required in VIII).

FOR GRADUATES.

501, 502. *Advanced Agricultural Chemistry.* (3-4). *Major.*

Same as course 421, with more advanced work.

Laboratory fee, \$5.00 each term.

501a, 502a. *Advanced Agricultural Chemistry.* (2-4). *Minor.*

A modification of course 501, 502.

Laboratory fee, \$5.00 each term.

FOR STUDENTS IN SHORT COURSES.

51. *Practical Chemistry.* (3-2).

This course is intended to familiarize the student with chemistry and its relation to every-day affairs. The elementary principles of inorganic chemistry are first considered and then topics of practical interest are taken up. Some of the topics studied are: Fuels (solid, liquid, and gaseous), illuminants, air and ventilation, water purification and softening, extraction and properties of the non-ferrous metals, alloys, iron and steel, corrosion of metals, lime, cement, brick and pottery, glass, protective coatings, some carbon compounds, foods, etc.

The laboratory work comprises the preparation or testing of metals discussed in the class room.

Laboratory fee, \$2.00.

Text: Chemistry of Common Things, Brownlee, and other texts.

(Required in H).

54. *Dyeing.* (1-4).

Similar to course 308 but more elementary.

Laboratory fee, \$2.50.

Prerequisite: Chemistry 51.

(Required in H).

CHEMICAL ENGINEERING.

The foundation for the work in chemical engineering is laid in the courses in chemistry already described. Chemistry and chemical engineering cover such a broad field that in the senior year students are advised to specialize in some branch of technical analysis such as its application to the cotton seed oil industry, petroleum technology, problems of sanitation, or the chemical control of a cement plant. All the work is supplemented by laboratory work. The chemical industries most highly developed in this State are inspected from time to time.

201. *Industrial Chemistry.* (3-0).

Same as Chemical Engineering 407.

(Required in XIII).

202. *Elementary Quantitative Analysis.* (2-8).

This course serves as an introduction to the methods of exact analysis, and is regarded as preliminary training for the more advanced courses. In the class room the practice and theory of the laboratory exercises are dealt with by lectures and recitations. Special attention is given to stoichiometry.

The laboratory work consists of a number of carefully selected experiments in quantitative analysis designed to typify operations of general application. The work is first gravimetric, then volumetric. In the early periods compounds of known composition and purity are analyzed, but later substances of industrial significance, whose percentage composition is known only to the instructor, are undertaken. Near the close of the term an analysis is made of a carbonate or silicate rock for the commonly determined constituents.

Texts: Notes on Quantitative Chemical Analysis, Foulk; Calculations of Analytical Chemistry, Miller.

Prerequisite: Chemistry 205.

Laboratory fee, \$6.00.

(Required in VIII).

208. *Metallurgy.* (2-0).

Same as Chemical Engineering 408.

(Required in XIII).

301, 302. *Technical Analysis.* (2-8).

The theory consists of lectures, recitations and conferences dealing with technical methods of analysis, both rapid and exact, effort being made to thoroughly familiarize the student with the principles involved. Before beginning an analysis the student is required to consult current literature and standard books of reference and present a written outline for criticism and suggestion.

The laboratory work comprises the analysis of limestone, fuels, lubricating oils, gas, boiler water, iron and steel, alloys, ores, paint, soap, sugar, asphalt and other materials of engineering and industrial importance.

Texts: Quantitative Analysis, Mahan; Engineering Chemistry, Stillman.

Laboratory fee, \$6.00 each term.

Prerequisite: Chemical Engineering 202.

(Required in VIII).

312. *Elementary Quantitative Analysis.* (2-8).

Same as Chemical Engineering 202.

Laboratory fee, \$6.00.

(Elective in X).

405. *Chemical Summary.* (3-0).

This course is designed to summarize all the work given in the course in Chemical Engineering and to co-ordinate the different subjects throughout the four years' work. The work is given by means of lectures, recitations and written tests.

(Required in VIII).

407. *Industrial Chemistry.* (3-0).

This is an introductory course, covering the principal applications of chemical process to commercial products, mostly organic in nature, such as gas manufacture, petroleum products, soaps, the starch and sugar industries, and the manufacture of paper, leather, and explosives. The manufacture of fertilizers, cement and ceramics is also considered.

Text: Industrial Chemistry, Benson.

Prerequisite: Chemistry 101, 102.

(Required in III).

408. *Metallurgy of Iron and Steel.* (2-0).

In this course the metallurgy of iron and the manufacture of steel are considered in detail, especial attention being given to the nature and

location of valuable iron ore deposits, together with suitable fluxes; to the nature and availability of proper fuels, together with the furnaces used; to the constitution of the resulting pig iron and the manufacture of steel therefrom; and finally to the chemistry of the different kinds of steel and their adaptability in engineering practice. Lectures and recitations.

Text: The Metallurgy of Iron and Steel, Stoughton.

Prerequisite: Chemistry 101, 102.

(Required in III).

411. *Physical Chemistry.* (5-0).

This course presents physical explanations of chemical and allied phenomena, together with a mathematical exposition of the laws involved. Some of the subjects thus developed are the atomic theory, the periodic law, solubility, fusion, vaporization, the phase rule, dissociation in solution, chemical equilibrium, and relative chemical activity. It leads up to the consideration of the best research of today. Most of the theoretical conclusions deduced in the class room are confirmed in the laboratory in the following term. Lectures and recitations.

Prerequisite: Chemistry 301, 302.

(Required in VIII; elective in X).

414. *Sanitary Chemistry.* (3-4).

The course deals with the sanitary examination of food, milk, and milk products, and the sanitary analysis of water, including water treatment methods. Methods of purification of water, as the use of sand filters, coagulants, and algicides, are explained. Sources of pollution of water and milk supplies and their relation to public health are discussed. Problems common to the sanitary chemist and engineer are also considered.

Laboratory fee, \$5.00.

Prerequisite: Chemistry 206 or 301, 302.

(Elective in VIII, X).

415. *Industrial Chemistry.* (3-6).

The theory consists of lectures and conferences dealing with technical processes and their application to the industries and the construction and operation of industrial chemical plants. As the work of the student diverges individual conferences are arranged with each during which his particular problems are discussed. Reference is made to the library and current technical literature.

Text: Industrial Chemistry, Thorp.

Laboratory fee, \$6.00.

Prerequisite: Chemical Engineering 302.

(Required in VIII).

416. *Chemical Technology.* (3-4).

This course deals with the application of chemical theories and laws to industrial processes, organic chemical processes being emphasized,

especially those dealing with the refining of petroleum, cottonseed oil, and sugar.

Laboratory fee, \$5.00.

Prerequisite: Chemical Engineering 415.

(Elective in VIII).

418. *Physical Chemistry.* (1-8).

The laboratory work consists of the calibration of apparatus, determination of molecular weights, heats of reaction, rate of reaction, law of mass action and other related topics. During the second part most of the experiments deal with electrical phenomena. A few experiments illustrating electro-chemical processes of commercial importance are performed.

Prerequisite: Chemistry 301, 302.

Laboratory fee, \$5.00.

(Required in VIII; elective in X).

DEPARTMENT OF CIVIL ENGINEERING.

PROFESSOR RICHEY, PROFESSORS EMMONS, MARBURGER, BIRD, ASSOCIATE PROFESSORS MUNSON, STANTON, ASSISTANT PROFESSOR MCNEW, MR. BRADEN, MR. DOREMUS.

201. *Plane Surveying.* (3-5).

Chaining; the adjustment, use and care of compass, transit, level, plane table and hand instruments; measurement of angles; land surveys and computations; stadia, topographic, city and general surveying; observations for true meridian and latitude; plotting results.

Stress is laid upon the practical side of surveying, the importance of care and precision both in the field and in the class room, and the necessity for understanding the principles underlying each step of the work.

Additional problems under the same working conditions as met by the practicing surveyor are assigned in course 300 during the summer.

Texts: Principles and Practice of Surveying, Vols. 1 and 2, Breed and Hosmer; Manual of Surveying, R. E. Davis.

Laboratory fee, 75 cents.

Prerequisite: Mathematics 103.

(Required in IV).

202. *Railroad Engineering.* (2-3).

The theory and practice of simple and compound curves are taught in both class room and field and such problems are given as will illustrate the application of the theory to actual working conditions.

Problems in simple and compound curves are assigned, the notes calculated and the curves "run out" in the field.

Text: Field Manual for Railroad Engineers, Nagle.

Laboratory fee, 75 cents.

Prerequisite: Civil Engineering 201.

(Required in IV).

204. Analytical Mechanics. (4-0).

A study of the fundamental principles of mechanics, with numerous problems showing their application in engineering. Both kinetics and statics are considered, but especial emphasis is put upon the applications of the principles of static equilibrium.

Text: Applied Mechanics, Poorman.

Prerequisite: Mathematics 203; to be accompanied by Mathematics 204.

(Required in IV, IX, group 2; XV).

206. Plane Surveying. (1-3).

A modification of course 201.

After covering the fundamental principles of surveying, special attention is given to the use of the transit and level in making layouts of building and machinery foundations, lining shafting, running profile surveys for pipe lines, etc.

Text: Surveying Manual, Pence and Ketchum.

Laboratory fee, 50 cents.

Prerequisite: Mathematics 103.

(Required in V, VI).

300. Field Practice. Summer Following Sophomore Year; 3 Weeks.

This course includes the care, management and use of surveying instruments in making land, topographic and triangulation surveys, particular attention being paid to stadia and plane table methods.

Practical working conditions are approximated by requiring a full working day in the solution of special problems in the several different surveys. Areas are computed, topography platted and maps made. The true meridian is determined by observations on the sun and Polaris. Each student is required to become reasonably proficient in the use of the surveyor's compass, transit, level and plane table.

Reference text: Principles and Practice of Surveying, Vols. 1 and 2, Breed and Hosmer, together with additional notes by the instructors.

Laboratory fee, \$1.00.

(Required in IV, XV).

303. Railroad Engineering. (2-3).

A continuation of course 202, covering transition curves, frogs and switches, turnouts, vertical curves, earthwork, overhaul, estimates, materials, structures, etc.

The theory is demonstrated in the field by working out assigned problems and actually doing the field work necessary. Instruction in platting progress profiles, preparing preliminary, monthly, and final estimates, including the determination of overhaul, is given.

This practice, as well as that of course 202, is preliminary to more elaborate field work required in course 400, and railroad drafting in course 401.

Text: Field Manual for Railroad Engineers, Nagle.

Laboratory fee, 75 cents.

Prerequisite: Civil Engineering 202.

(Required in IV).

304. Railroad Construction. (2-0).

Railroad surveys; equipment; costs; locomotive performance; virtual profiles; economics.

Text: Design of Railway Location, Williams.

Prerequisite: Civil Engineering 303.

(Required in IV).

305. Mechanics of Materials. (3-0).

This course covers a treatment of the resistance of materials and the mechanics of pipes, riveted joints, beams, columns, shafts, etc. The elastic curve and the deflection of beams, combined stresses, resilience, and impact are treated briefly.

Text: Strength of Materials, Boyd.

Prerequisite: Mathematics 204; Civil Engineering 204 or equivalent.

(Required in III, IV, IX, group 2).

306. Masonry. (3-0).

The fundamental principles involved in the design and construction of masonry structures in general are treated in this course. Reinforced concrete, however, receives further and more detailed consideration in courses 413 and 414.

Text: Design of Masonry Structures and Foundations, Williams.

Prerequisite: Civil Engineering 305.

(Required in IV).

311. Hydraulics. (3-2).

The laws governing the action of water at rest and in motion, as related to engineering problems, the flow of water in pressure mains, sewers, aqueducts, open channels, and in rivers; measurement of the flow of water by nozzles, orifices, weirs and meters; estimates for water supply and water power; hydrography; theory and efficiency of water wheels, motors, turbines, rams and pumps.

The practice consists of calibration of nozzles, orifices, water meters, weirs, pressure gauges; efficiency tests on impulse motors, hydraulic rams, and one, two and three-stage centrifugal pumps.

Text: Hydraulics, King and Wisler.

Prerequisite: Mathematics 203 or 205.

(Required in IV; elective in VIII).

315. Strength of Materials Laboratory. (0-2).

Determination of the strength, ductility, modulus of elasticity, and other properties of engineering materials. Various tests of timber, steel, cast iron, cement, etc., are made by the student and reports submitted showing results. In these reports considerable attention is given to the presentation of results in clear and condensed form by means of curves and tables.

Laboratory fee, \$1.00.

Prerequisite: Civil Engineering 305 or registration in Civil Engineering 305.

(Required in IV, IX, group 2).

320. Topographic Drawing. (0-2).

This is a course of instruction and practice in the essentials of topographic drawing, and includes a study of the forms and practice in the execution of the common conventional signs; study and practice in the methods of showing configurations of the earth's surface by means of contours; practice in the execution of conventional signs and lettering in combination; practice in map drawing.

(Required in IV).

323. Plane Surveying. (3-5).

Same as course 201.

Laboratory fee, 75 cents.

(Required in XV).

326. Plane Surveying. (1-3).

Same as course 206.

Laboratory fee, 50 cents.

(Required in IX, group 2; elective in VIII).

328. Strength of Materials Laboratory. (0-2).

Same as the practice given in course 315.

Laboratory fee, \$1.00.

(Required in III, V, XV).

330. Framed Structures. (3-3).

This course covers the application of the laws of equilibrium in the determination of stresses in roof trusses and bridge trusses. The study of influence lines, deflections of beams, and continuous beams are included. Algebraic and graphical methods are used both in the theory and in the practice. Complete stress diagrams are drawn for various kinds of trusses and loading and the checking of one method of solution by some other method is continually required.

Text: Theory of Framed Structures, Ellis.

Prerequisite: Mathematics 204; Civil Engineering 204, 305.

(Required in IV, IX, group 2).

332. Mechanics of Materials. (3-0).

Same as course 305.

(Required in V, XV).

400. Field Practice. Summer Following Junior Year; 3 Weeks.

A practice course in which effort is made to approximate actual working conditions of preliminary and location surveys.

The class is required to complete exercises in railroad surveying; road and street location; mapping. Each student is drilled in the use of the transit and level in running preliminary and location lines; with the surveyor's compass in tying in land lines; with the hand level, in taking topography. Instruction is given in cross sectioning, staking out bridge openings, running drainage areas and determining the size of drainage openings. The care and adjustment of instruments are reviewed and observations on the sun for determining the true meridian are performed. Additional problems of benefit to the student will be assigned when time permits.

Reference texts: Design of Railway Location, Williams; Field Manual for Railroad Engineers, Nagle.

Laboratory fee, \$1.50.

Prerequisite: Civil Engineering 304.
(Required in IV).

401. *Railroad and Highway Drafting.* (0-3).

Office methods of working up the notes of reconnaissance, preliminary, and location surveys. This includes the completion of a map, a profile and estimate of the line located in course 400.

(Required in IV, groups 1, 2).

403. *Roofs and Bridges.* (3-9).

Continuation of work begun in course 330. Study of the design of simple plate girder and truss spans. The student makes designs and general drawings and has some practice also in detailing.

Text: Modern Framed Structures, Part III, Johnson, Bryan and Turneure.

Prerequisite: Civil Engineering 330.

(Required in IV, group 1).

404. *Bridge Design.* (0-5).

A continuation of the practice in course 403.

Prerequisite: Civil Engineering 403.

(Required in IV, group 1).

406. *Materials of Construction.* (0-4).

A laboratory study of the suitability of various materials of engineering, including brick, stone, sand, gravel, cement, mortars, concrete, and bituminous paving materials.

Laboratory fee, \$2.00.

Prerequisite: Civil Engineering 407 or 415.

(Required in IV, group 1).

407. *Roads and Pavements.* (3-0).

This course is provided for students in general Civil Engineering, and covers a brief study of country roads and city pavements. Highway location, design, construction and maintenance are studied; also road laws, finances, organization and supervision are briefly considered.

The text is supplemented by lectures, the use of bulletins, road machinery, models and samples of materials.

Text: Construction of Roads and Pavements, Agg.

Prerequisite: Civil Engineering 201.

(Required in IV, group 1; XV).

410. *Contracts and Specifications.* (2-0).

A brief study of the law of contracts as applied to engineering operations; the relation of the engineer to the owner and to the contractor; the necessity for, and preparation of, engineering specifications and the accompanying documents; general and specific clauses in specifications; illustrative examples.

Texts: Elements of Specification Writing, Kirby; Contracts in Engineering, Tucker.

(Required in IV, V, XV; elective in VIII).

411. *Hydraulics.* (3-0).

Same as course 311, except that no practice is given.

(Required in III; elective in V).

413. *Elements of Reinforced Concrete.* (2-0).

The theories of stress distribution, and various systems of reinforcement employed in the construction of beams and columns are discussed, and illustrative examples studied. Determination of stresses and elementary design, based upon the assumptions commonly made, are taken up by means of practical problems solved by the student.

Text: Reinforced Concrete Construction, Vol. I, Hool.

Prerequisite: Civil Engineering 305.

(Required in IV, IX, group 2).

414. *Reinforced Concrete Design.* (2-3).

Study of the design of various types of reinforced concrete structures, such as buildings, bridges, retaining walls, culverts, etc. Practice is had in the making of simple designs and working drawings.

Text: Reinforced Concrete Construction, Vol. II, Hool.

Prerequisite: Civil Engineering 413.

(Required in IV, group 1; IX, group 2).

415. *Highway Construction and Maintenance.* (4-0).

This course covers the location, design, construction and maintenance of all types of roads and pavements. Road laws, finances, organization and supervision are treated briefly. The text is supplemented by frequent reference to bulletins, standard specifications, trade catalogues, proceedings of engineering societies, and current engineering periodicals.

Text: The Construction of Roads and Pavements, Agg.

Prerequisite: Civil Engineering 201.

(Required in IV, group 2).

417, 418. *Highway Materials.* (1-3).

The various materials used in the construction and maintenance of roads and pavements are studied with special reference to their suitability for the various types of construction. The production, refining and testing of bituminous materials and control of the manufacture of the various pavement mixtures are studied in detail. The laboratory work consists of standard tests of bituminous and non-bituminous materials.

Text: Laboratory Manual of Bituminous Materials, Hubbard, and bulletins.

Laboratory fee, \$2.00, first term; \$3.00, second term.

Prerequisite: Senior classification in engineering.

(Required in IV, group 2).

423. *Bridge Design.* (2-4).

A study of the stresses in highway bridges and the making of simple designs.

Text: *Design of Highway Bridges*, Ketchum.

Prerequisite: Civil Engineering 330.

(Required in IV, group 2).

426. *Highway Bridges and Culverts.* (1-5).

This course includes lectures and problems in the design and construction of highway bridges and culverts. The types of bridges best suited to various traffic conditions are studied, and such questions as the size of waterways, width of road, etc., are taken up in detail.

Text: *Design of Highway Bridges*, Ketchum.

Prerequisite: Civil Engineering 413, 423.

(Required in IV, group 2).

429. *Highway Laws and Economics.* (3-0).

This course includes a study of the Texas highway laws with a comparison of the laws of other States. Problems of economical selection and financial justification for construction are also studied along with the various methods of financing.

Text: *Engineering Economics*, Fish.

Prerequisite: Senior or junior classification, engineering courses.

(Elective in IV, groups 1, 2).

434. *Irrigation and Drainage.* (2-0).

Determination of the quantity of water available; collection and storage works; design, location and construction of distributive systems; economic use and duty of water in irrigation; water rights. Drainage of overflowed lands is presented briefly by lectures.

Text: *Irrigation Engineering*, Wilson and Davis.

Prerequisite: Civil Engineering 311.

(Required in IV, group 1).

440. *Sanitary Engineering.* (4-2).

A study of the collection, storage and distribution of water for municipal use; the necessity for and methods of water purification; design and construction of waterworks systems. A study of questions relating to quantity of sewage; design, construction and maintenance of sewerage systems; sewage treatment and disposal.

Texts: *Public Water Supplies*, Turneure and Russel; *Sewerage and Sewage Disposal*, Metcalf and Eddy.

Prerequisite: Civil Engineering 311.

(Required in IV).

441. *Hydraulics.* (3-2).

Same as course 311.

(Required in XV).

DEPARTMENT OF DAIRY HUSBANDRY.

PROFESSOR GROUT, ASSOCIATE PROFESSORS CLUTTER, DARNELL,
MR. LASSETER.

101. Judging Dairy Cattle. (0-2).

A study of dairy types, and the correlation between type and milk production. First, thorough training is given in the scoring of dairy cattle, and this is followed by comparative judging of typical individuals of the major breeds of dairy cattle.

(Required in I, XII).

102. Dairying. (2-2).

Same as course 202.

Laboratory fee, 75 cents.

(Required in XII).

202. Dairying. (2-2).

The secretion of milk and the composition of milk and its products; the use and application of the lactometer in the determination of the total solids and adulteration of milk; the various methods of cream raising and separation; and the principles of making butter and ice cream.

Text: Milk and Its Products, Wing.

Laboratory fee, 75 cents.

(Required in I, XII).

301. Market Milk. (2-2).

A study of the food value of milk; the production, handling and sale of market milk; city milk inspection.

Text: Market Milk, Kelly and Clement.

References assigned.

Prerequisite: Dairy Husbandry 202.

Laboratory fee, \$1.00.

(Required in I, group 7; XI).

304. Advanced Dairy Cattle Judging. (0-2).

A further study of comparative judging of dairy cattle.

References assigned.

Prerequisite: Dairy Husbandry 101.

(Elective).

306. Butter Making and Factory Management. (3-2).

Types of creameries; raw product; grading; pasteurization; use of commercial starters; ripening; churning; salting and working butter; explanation of various physical phenomena in making, packing and storing butter. Creamery location and plans; business accounting as applied to management in various types of creameries.

Text: The Butter Industry, Hunziker.

Prerequisite: Dairy Husbandry 202.

Laboratory fee, \$1.00.

(Required in I, group 7).

404. *Seminar.* (2-0).

A study along selected lines of research, with a review and study of recent Experiment Station work.
(Elective).

406. *Dairy Cattle Feeding and Management.* (3-2).

This course covers the field of dairying in its relation to the producer. The breeding, feeding, care and management of dairy cattle are given special consideration.

Texts: *Dairy Cattle Feeding and Management*, Larson and Putney;
Feeds and Feeding, Henry and Morrison.

Prerequisite: Animal Husbandry 401.

(Required in I, group 7).

407. *Ice Cream Making and Refrigeration.* (2-2).

Mixing and freezing of ice cream; sherbets and other frozen products, and the physical principles involved; type of freezers; flavoring materials; fillers; binders; ice cream standards; the theory and practice of artificial refrigeration and its use in the ice cream plant.

Text: *The Book of Ice Cream*, Fisk.

References assigned.

Prerequisite: Dairy Husbandry 202.

(Elective).

408. *Advanced Study of Dairy Breeds.* (0-4).

The tracing and study of the pedigrees of the leading strains and families of dairy cattle, with special references to official records.

Prerequisite: Dairy Husbandry 202; Animal Husbandry 302.

(Elective).

FOR GRADUATES.

501, 502. *Advanced Dairy Husbandry.* (3-4). *Major.*

In this course a specific study of some important production or manufacturing problem is made. Scientific journals and experiment station literature are reviewed. A thesis based upon original investigational work is required as a part of this course.

501a, 502a. *Advanced Dairy Husbandry.* (2-4). *Minor.*

A modification of course 501, 502.

FOR STUDENTS IN SHORT COURSES.

23. *Farm Dairying.* (3-2).

An elementary course in selecting and handling dairy cattle; rearing dairy calves; methods of milking; testing milk; care and handling milk and dairy products on the farm.

Text: *Farm Dairying*, C. Larsen.

Laboratory fee, \$1.00.

(Required in C).

DEPARTMENT OF DRAWING.

PROFESSOR A. MITCHELL, PROFESSOR GEIST, ASSISTANT PROFESSORS MILNER, R. S. FOURAKER, MR. MULLINS, MR. BAKER.

101. Mechanical Drawing. (0-3).

Care and use of drawing instruments, simple exercises in the use of drawing instruments, instrumental and free-hand lettering, geometrical constructions, construction of plane curves, orthographic and axonometric projections.

Text: Mechanical Drawing, Giesecke and Mitchell.

(Required in all four-year engineering courses and in XIII).

102. Mechanical Drawing. (0-3).

Problems in descriptive geometry involving points, lines, planes, tangency, intersections of planes and solids, intersections of solids, development of surfaces, shades and shadows, linear perspective. This course is parallel to and is an application of courses 103 and 104.

Text: Instrumental Exercises, Descriptive Geometry, Mitchell.

Prerequisite: Drawing 103.

(Required in all four-year engineering courses and in XIII).

103, 104. Descriptive Geometry. (2-0).

Class-room exercises, quizzes and lectures on general and special problems relating to points, lines, planes and solids; problems in shades and shadows and in perspective. Special attention is paid to the representation of objects by orthographic projection in the first and third angles.

Text: Descriptive Geometry, Giesecke and Mitchell.

(Course 103 is required in all four-year engineering courses and in IX and XIII. Course 104 is required in all four-year engineering courses and in XIII).

105, 106. Free-hand Drawing. (0-1).

Drawing from geometrical solids, common objects, plaster casts, still life, to study form, proportion, light and shade; in the second term special attention is given to measuring, dimensioning and describing machines, machine parts, engineering structures and details.

The course is varied to meet the practical needs of students in the different engineering departments.

(Required in all four-year engineering courses and in XIII).

109, 110. Free-hand Drawing. (0-3).

Same as courses 105 and 106 for the first term. In the second term, adaptation of light and shade in architectural drawing.

(Required in IX).

119, 120. Free-hand Drawing. (0-2).

Same as course 105 and 106 for the first term. In the second term, drawing from specimens of plant and animal life and from apparatus used in scientific work.

(Required in X).

122. *Mechanical Drawing.* (0-3).

Same as course 101.

(Required in XIV).

201, 202. *Mechanical Drawing.* (0-3).

Standard conventional section lining, drawing of standard bolts, nuts, rivets and threads; helixes, elementary parts of machines and engineering structures; details and assemblages; Patent Office drawing, tracing, blue printing. The student is required to carefully sketch and measure his model in the drawing room, shop or field. From his dimensioned sketch he makes, traces, and blue prints his working drawing.

The course is varied to meet the practical needs of students in the different engineering departments.

Text: *Mechanical Drawing*, Giesecke and Mitchell.

Reference text: *Engineering Drawing*, French.

Prerequisite: Drawing 101.

(Required in VIII; course 201 required in XIII).

201a, 202a. *Mechanical Drawing.* (0-2).

A modification of courses 201, 202.

Text: *Mechanical Drawing*, Giesecke and Mitchell.

Reference text: *Engineering Drawing*, French.

Prerequisite: Drawing 101.

(Required in IV, V, VI).

203. *Color Harmony and Design.* (0-3).

Exercises in the harmony of color, including the use of water and distemper colors for the purpose of training the student in the use of correct color combinations. Decorative and constructive design.

Prerequisite: Drawing 105 or its equivalent.

(Required in XIII).

209. *Free-hand Drawing (Advanced).* (0-4).

Line charcoal drawings of full-length antique and modern subjects; shaded charcoal drawings from casts of more complex architectural ornament.

Prerequisite: Drawing 109, 110).

(Required in IX, groups 1, 2).

210. *Free-hand Drawing (Advanced).* (0-4).

A continuation of course 209.

Shaded charcoal drawings of full-length antique and modern subjects.

Prerequisite: Drawing 209.

(Required in IX, group 1).

213. *Mechanical Drawing.* (0-3).

same as course 101.

(Elective in XII).

309, 310. Free-hand Drawing. (0-4).

Pen and ink, pencil and water color rendering.

Prerequisite: Drawing 210.

(Required in IX, groups 1, 2).

315. Mechanical Drawing. (0-3).

Exercises in the use of drawing instruments, instrumental and free-hand lettering, geometrical constructions, orthographic and isometric projections.

Text: Mechanical Drawing, Giesecke and Mitchell.

(Elective).

316. Free-hand Drawing. (0-3).

Elementary principles of free-hand drawing during first part of the term, followed by water color rendering of foliage and general entourage.

(Elective).

317. Mechanical Drawing. (0-3).

Elementary architectural drawing, including plans, elevations, sections, window and door details, structural steel construction, masonry construction, carpentry, etc.

Text: To be announced.

Prerequisite: Drawing 201 or 101.

(Required in XIII).

318. Machine Drawing. (0-3).

Correct representation of objects; approved methods of dimensioning drawings; sketching and measuring machine parts; standard conventions; cycloidal and helical curves; screw threads, spur wheels, bevel and worm gears; cam construction.

Text: To be announced.

Prerequisite: Drawing 201 or 101.

(Required in XIII).

319, 320. Free-hand Drawing. (0-2).

Similar to course 310.

Prerequisite: Drawing 120.

(Elective in X).

409, 410. Free-hand Drawing (Life Class). (0-4).

Architectural rendering; black-and-white and color studies of the undraped figure; sketches of the draped figure in various media.

Prerequisite: Drawing 309, 310.

(Required in IX, group 1).

FOR STUDENTS IN SHORT COURSES.

11, 12. Mechanical Drawing. (0-3).

Proper care and correct use of drawing instruments, simple exercises in the use of drawing instruments, lettering, geometrical constructions, standard conventional signs, sketching, measuring and dimensioning elementary parts of machines.

This course is varied to meet the practical needs of students in the different engineering departments.

Text: Mechanical Drawing, Giesecke and Mitchell.
(Required in H).

13. *Free-hand Drawing.* (0-1).

Similar to course 105.

(Required in H).

14. *Free-hand Drawing.* (0-1).

Similar to course 106.

(Required in H).

61. *Mechanical Drawing.* (0-3).

Same as course 11.

(Elective in C).

DEPARTMENT OF ECONOMICS

PROFESSOR CLARK.

203, 204. *Principles of Economics.* (3-0).

This is a general course in the fundamental principles of economics, and includes the theory of economic activities concerning production, distribution and consumption; the practical economic problems of money, credit and banking, foreign exchange, tariff, transportation, trusts, insurance, taxation.

Texts: Economics for the General Reader, Clay; Outlines for Economics, Ely.

(Required in XIV).

306. *Principles of Economics.* (3-0).

Similar to course 203, 204, but less comprehensive.

Texts: Principles of Economics, Seager; Questions on the Principles of Economics, Day and Davis.

(Required in I, XII).

311. *Money and Banking.* (3-0).

In this course effort is made to familiarize the student with such questions as the following: the evolution of money, the various forms of credit, the history of banking institutions, banking in other countries, the Federal Reserve System.

Prerequisite: Economics 204 or 306.

Texts: Money and Banking, Holdsworth; Elements of Foreign Exchange, Escher.

(Required in XIV).

313, 314. *Principles of Economics.* (3-0).

Same as course 203, 204.

(Required in X).

316. Business Law. (3-0).

This course is especially fitted for those who plan to enter general business practice, but it is important in all spheres of American life. Such subjects as the following are studied: the nature and scope of law, contracts, sales agency, negotiable instruments, employment, personal property, real property, wills and inheritances, surety, bankruptcy. Supplementary studies will be made of Texas laws, and of court decisions.

Text: Business Law, Conynnton and Bergh.

(Required in XIV).

403. Principles of Economics. (3-0).

The work in this course is not materially different from that given in course 306. On account of the fact that this is a senior course the discussions are somewhat more comprehensive than in the above course. Also, since the students taking this course are primarily interested in engineering subjects somewhat greater emphasis is placed on the industrial side of economics.

Texts: Principles of Economics, Seager; Questions on the Principles of Economics, Day and Davis.

(Required in III, IV, V, VI, VIII, IX, XIII, XV).

408. Corporation Finance. (3-0).

This course considers the common forms of business organization, but special attention is given to corporations as the most important of these. The subjects taken up are the following: advantages and disadvantages of incorporation, formation and organization of corporations, capital stock and bonds, legal status of corporations, bankruptcy and reorganization. The work is supplemented by reports from the class and by discussions by the instructor.

Text: Business Finance, Lough.

(Elective in all engineering courses and in XII).

FOR GRADUATES.

501. History of Economic Doctrines. (3-0). One-half Minor.

The purpose of this course is to study in detail, beginning with the Physiocrats, the growth of the science of economics. A careful study is made of the various schools of economists, and an analysis is made of such fundamental concepts as production, value, capital, wages, interest, profits, etc., as they have appeared from time to time in the writings of leading economists. Gide and Rist's History of Economic Doctrines serves as a guide into these authorities.

502. Advanced Marketing. (3-0). One-half Minor.

This being an advanced course, it should not be attempted without a solid foundation in economic theory and business principles. In the course little attention is paid to the elementary marketing processes, but special emphasis is placed upon the underlying theories relating to the system of transferring goods from producers to consumers. In con-

nection with the lectures by the instructor and special investigations by the students, a critical study is made of Alfred Marshall's Industry and Trade.

DEPARTMENT OF ELECTRICAL ENGINEERING

PROFESSOR BOLTON, PROFESSOR WOOTEN, ASSOCIATE PROFESSORS STRAW, SECHRIST, YATES, ASSISTANT PROFESSORS MARKLE, L. L. FOURAKER, MR. DILLINGHAM, MR. RODE.

201. *Electricity and Magnetism.* (4-4).

Lectures, recitations and problems in electricity and magnetism.

This includes a laboratory investigation of the phenomena studied in the text-book.

Laboratory fee, 75 cents.

Prerequisite: Mathematics 102, 103.

(Required in V).

202. *Elementary Electrical Engineering.* (2-4).

Lectures and recitations on simple electric circuits, primary and secondary batteries, battery charging, simple telephone circuits, the magnetic circuit, inductance and capacity.

A short time is devoted to the study of the National Electric Code, and of methods of wiring.

The practice is intended to clarify the ideas received by the student in the class room. It includes the accurate measurement of various electrical quantities, such as resistance, inductance, capacity, and the effect of temperature, position, etc., on these quantities; a study of the various types of batteries to determine their adaptability to different uses; calibration and repair of instruments, such as ammeters, voltmeters, and wattmeters; tests of the magnetic properties of iron.

Laboratory fee, \$1.75.

Prerequisite: Electrical Engineering 201, Mathematics 104.

(Required in V).

206. *Motors, Wiring and Lighting.* (2-2).

Same as course 412.

Laboratory fee, \$1.00.

(Required in XIII).

301. *Direct Currents.* (4-6).

This course is devoted to the study of the theory, design, and applications of direct current machinery.

The practice is intended to give practical demonstration of the theory. It includes the operation of dynamos and motors, the determination of characteristics and the measurements and calculation of losses, efficiencies and regulation.

Laboratory fee, \$1.50.

Prerequisite: Electrical Engineering 202, Mathematics 204.

(Required in V).

302. Alternating Currents. (5-6).

Lectures and recitations on the principles of alternating currents, including a study of the relations of voltage, current, resistance, inductance and capacity.

An experimental study of the effect of resistance, reactance, and capacity on alternating current circuits; the determination of wave shapes; and tests of some of the simpler types of alternating current machines.

Laboratory fee, \$1.50.

Prerequisite: Electrical Engineering 301, Mathematics 204.

(Required in V).

305. Electrical Machinery. (3-3).

Lectures and recitations on the operation and characteristics of dynamos, motors and transformers of the types most commonly met with in general engineering practice. This course is intended to give only a general idea of the subject. The course is abbreviated so that only the more fundamental principles are studied.

Text: Principles and Practice of Electrical Engineering, Gray.

The practice is designed to give the general engineering student a slight degree of familiarity with the operation and the more important characteristics of both direct current and alternating current machines.

Laboratory fee, \$1.00.

Prerequisite: Physics 204, Mathematics 204 or 205.

(Required in IV, VIII, XV).

307, 308. Electrical Machinery. (3-0, 2-3).

This course includes instruction in the fundamental principles of direct and alternating current machinery, and operating characteristics of electrical machinery usually installed in power plants and electrically operated industrial enterprises.

Practice includes the operation of the principal types of electric motors, generators and transformers; and the study of their operating characteristics.

Laboratory fee, \$1.00, second term.

Prerequisite: Physics 204, Mathematics 204.

(Required in III, VI).

309, 310. Communication Engineering. (2-0, 2-2).

Construction and theory of telephone, telegraph and radio apparatus. A study of magneto and central battery circuit, alternating current telegraphy, telephone cable construction, poles, towers, insulators, radio communication.

Practice includes the laboratory study of circuits and instruments studied in the course. It emphasizes the fundamental principles rather than the mechanical details of modern practice.

Prerequisite: Electrical Engineering 201, 202. Must be accompanied by Electrical Engineering 301, 302 or 307, 308.

Laboratory fee, \$1.00, second term.

(Elective in V).

401, 402. *Alternating Current Machinery.* (5-7, 3-6).

This course embraces a study of alternating currents and alternating current machinery, including methods of generation, transformation and use; a study of wave forms and quantities affecting wave forms; and the effect of balanced and unbalanced loads.

The subject is treated from both the graphical and the mathematical viewpoint, the text being supplemented by lectures and problems.

The practical operation and determination of the characteristics of various types of alternating current machines.

Text: *Principles of Alternating Current Machinery*, Lawrence.

Prerequisite: Electrical Engineering 302 or 308.

Laboratory fee, \$1.50 each term.

(Required in V).

406. *Electric Power Distribution.* (2-2).

Lectures and recitations on the transmission and distribution of power by electrical methods.

Practice includes the design and cost estimates of several transmission and distribution systems.

Prerequisite: Electrical Engineering 401.

(Elective in V).

409, 410. *Advanced Communication Engineering.* (2-3, 1-3).

Advanced telephone, telegraph and radio engineering, including a study of vacuum tubes, long distance telephone circuits, line and cable loading, induction effects, transpositions, phantom circuits, submarine telegraphy, telephone and telegraph repeaters, multiplex telegraphy and telephony, and radio telephony.

Practice includes the laboratory study of circuits and instruments studied in the course. It emphasizes the fundamental principles rather than the mechanical details of modern practice.

Prerequisite: Electrical Engineering 309, 310.

(Elective in V).

424. *Electric Railways.* (3-0).

A study of railway apparatus, costs of construction and operation of electric railways systems, and operation methods.

The practice in this course consists of the test of electric railway motors, controllers, and other appliances, and tests of electric cars.

Prerequisite: Electrical Engineering 301.

(Elective in V).

425. *Illumination.* (2-2).

A course dealing with the principles of illumination and the application of these principles to specific cases. Attention is given to the arrangement of electric lights for decorative purposes as well as for useful illumination.

The practice in this course includes the test of various types of lighting units, the design of lighting systems, and the test of the illumination of buildings already lighted.

Laboratory fee, 50 cents.

Prerequisite: Electrical Engineering 302.
(Elective in V).

427. *Telephone Engineering.* (2-2).

A study of telephone circuits and telephone transmission.

Prerequisite: Electrical Engineering 301, 305, or 307.
(Required in V).

432. *Public Utility Problems.* (3-0).

Lectures and recitations on the problems of operation of public utilities. Particular attention is given methods of organization, the fixing of rates, and the economic features of new lines and extension.

Prerequisite: Electrical Engineering 401.
(Elective in V).

434. *Design and Construction.* (1-4).

The principles of design of electric machines with practice in the repair and rewinding of such machines.

Prerequisite: Must be accompanied or preceded by Electrical Engineering 302 or 308.
(Elective in V).

436. *Wiring and Lighting.* (3-0).

(a) A study of the fundamentals of interior wiring.

(b) The principles of artificial illumination with a study of modern types of illuminants.

(Required in IX, group 2).

FOR STUDENTS IN SHORT COURSES.

55. *Alternating Currents.* (5-4).

A study of alternating currents with particular emphasis laid on the practical application of the subject matter. As far as possible, the subject is treated from the graphical viewpoint.

Laboratory fee, \$1.00.

(Required in N).

56. *Electrical Machinery.* (5-4).

A study of the types of electrical machinery usually found in power plants and electrical installations. The course deals principally with alternating current machinery.

The practice includes the test of alternating current machines.

Laboratory fee, \$1.00.

(Required in N).

61, 62. *Electrical Laboratory.* (0-4).

Laboratory tests of electrical meters and other machines, practice in installing electric wiring and in constructing and repairing electric machines.

Laboratory fee, \$1.00 each term.

(Required in N, group 1).

65, 66. *Applied Electricity.* (3-0).

The study of wiring methods, meters, storage batteries, lighting, and line construction.

Practice for this course is given in course 61, 62.

(Required in N, group 1).

DEPARTMENT OF ENGLISH

PROFESSOR SUMMEY, PROFESSORS THOMAS, COFER, ASSOCIATE PROFESSOR GUNTER, MR. THOMAS L. MAYO, ASSISTANT PROFESSORS PAGE, HICKMAN, S. S. MORGAN, HARRINGTON, MR. BITTLE, MR. SPAHR, MR. GLADNEY, MR. ODELL.

103, 104. *Rhetoric and Composition.* (3-0).

This course includes recitations, readings from standard and current literature, and composition, both oral and written.

(Required in I, XII, XIV; elective in C).

105, 106. *English Composition and Contemporary Civilization.* (4-0).

This course is the same as 103, 104, except that an additional hour each week is given to lectures on various phases of contemporary civilization.

(Required in all engineering courses and in IX, XIII).

203, 204. *English Composition.* (2-0).

This course is intended to give the student practice in the preparation and presentation of reports on subjects related to his general reading or to his studies in agriculture or in engineering. Attention is also given to the writing of business letters.

Prerequisite: English 103, 104, or 105, 106.

(Required in all four-year courses.)

301, 302. *Argumentation.* (1-0).

This course includes a study of the logical and rhetorical essentials of argumentation and debate.

Prerequisite: English 203, 204.

(301: Required in I, XI, XII, XIV).

(302: Required in XI, XII).

303, 304. *Argumentation.* (2-0).

This course is like English 301, 302, except that more time is available for reading and debate.

Prerequisite: English 203, 204.

(303: Required in all engineering courses; in I, group 12; and in X).

(304: Required in I, X, XIV).

321, 322. *Victorian Literature.* (3-0).

In this course English literature of the Victorian era is treated as a reflection of the predominant ideals in politics, economic theory, science,

philosophy, and religion. Weekly themes in connection with the reading are a feature of the course.

(Elective in all four-year courses except XI, XII).

423, 424. *Contemporary Literature.* (2-0).

The purpose of this course is to acquaint the student with the trend of thought of the twentieth century as exemplified in standard literary productions. Particular attention is given to writings which reflect political, social, scientific, and ethical movements, such as democracy in government, world consciousness, complexity of society and industry, research, forces in social reconstruction. Parallel readings, with oral and written reports, are required.

(Required in X).

401, 402. *Public Speaking.* (1-0).

The aim of this course is to help the student to a simple, direct manner of speaking. The work consists of the oral interpretation of some of the best orations, writing and delivering original pieces, and debating. Personal conferences with the instructor are required.

(Required in all four-year courses except XIII).

403, 404. *Public Speaking and Lecturing.* (3-0).

The aim of this course is to give more practice in speaking than is offered in the required one-hour course. Attention is given to the preparation and delivery of special types of speeches and of lectures on popular scientific and industrial subjects. The course is recommended to those who expect to be engaged in teaching, in the extension field, or

in similar lines of public service. Conferences with the instructor are required.

(403, 404: Elective in all four-year courses except X, XI, XII).

FOR STUDENTS IN SHORT COURSES. •

31, 32. *Practical Composition.* (3-0).

This course includes a review of the fundamental principles of composition. The written exercises are on practical subjects, especial attention being given to business correspondence.

(Required in all two-year courses).

ENTOMOLOGY

PROFESSOR BILSING, ASSOCIATE PROFESSOR FLETCHER,
ASSISTANT PROFESSOR REMY.

201. *General Entomology.* (2-2).

In this course the student is taught the systematic position of the various insects. The relation of the anatomy of insects to control measures is also studied. The life histories of the more common insects are given, together with the methods of control for the injurious forms.

Laboratory fee, 75 cents.

Text: Applied Entomology, Fernald.
(Required in I).

203. *Veterinary Entomology.* (3-2).

A study is made of the more important insects which affect domesticated animals. Special attention is given those insects which act as disease carriers. Methods of control are discussed. Flies, fleas, ticks, and mites are some of the forms which are given attention in this course.

Text: Veterinary and Medical Entomology, Herms.
(Required in XI).

205. *Systematic Entomology.* (2-2).

This course includes a systematic study of the most common insects. The anatomy and physiology of insects is discussed together with their relationships to plants and animals.

Laboratory fee, 50 cents.
(Elective in X).

206. *Economic Entomology.* (2-2).

The life histories, habits and control methods of the common injurious insects are considered in this course. The control of insect outbreaks by the use of parasites and entomogenous fungi is considered. Special emphasis is given to insecticides, spraying and dusting machinery.

Laboratory fee, 50 cents.
(Elective in X).

301, 302. *Systematic Entomology.* (2-2, 3-2).

A thorough, systematic study of the various orders of insects is made in this course. The student has free access to the entomological library, which contains bound volumes of all standard publications on entomology, keys, etc. The student also has access to a considerable insect collection for identification purposes.

Text: Comstock's Manual of Insects.
(Elective in I, X).

304. *Apiculture (Elementary).* (2-2).

This is an elementary course in beekeeping open to all four-year students. The course is arranged so as to give the student a working knowledge of beekeeping which will prepare him for conducting a small apiary in connection with general farm work or for entering commercial beekeeping as a vocation. The course includes a study of the life history of the honey bee, methods of making hives and equipment, and the control of bee diseases. The department is equipped with an apiary, hives, tools, wax presses, automatic extractors, and the standard equipment used in beekeeping.

Text: Productive Beekeeping, Pellet.
Laboratory fee, 50 cents.
(Elective in I, X).

306. *Animal Parasites.* (2-2).

This course consists of a study of insects and other anthropods which are parasitic upon domestic animals or which are concerned in the trans-

mission of diseases of live stock. Methods of eradication and control are given due emphasis.

Prerequisite: Entomology 201.

Laboratory fee, \$1.00.

(Elective).

307. *Apiculture.* (3-2).

This course is intended for those who wish to make a special study of beekeeping and should be followed by Entomology 308 and Entomology 408. A study is made of the biology of the honey bee. Working over out-of-date equipment, extracting honey and the preparation of wax are given due attention. Some time is given to studying the various methods of wintering.

Text: Beekeeping, Phillips.

(Elective in I, X).

308. *Apiculture.* (3-4).

Special attention is given to the honey plants and the areas most suited to beekeeping. A study is made of the methods of swarm control, hive manipulation and increase. The marketing of wax and honey and the methods used in eradicating bee diseases are studied.

(Elective).

312. *Medical Entomology.* (3-2).

This course is intended for those who wish to specialize in the general sciences. It comprises a study of the life histories, habits, and control methods of insects which are directly concerned in the transmission of human diseases such as yellow fever, malarial fever, typhus fever, bubonic plague, etc.

Laboratory fee, \$1.00.

Text: Medical Entomology, Johannsen and Riley.

(Elective in X).

401. *Advanced Economic Entomology.* (2-4).

This course is arranged for students intending to follow entomological work. Particular attention is given to economic problems, methods of entomological research, and field methods of insect investigation and control. This course also embraces insectary methods of breeding in insects and studies of insect parasitism.

Prerequisite: Entomology 201.

(Elective in X).

402. *Advanced Economic Entomology.* (2-4).

A continuation of Entomology 401. In addition to a field and laboratory study of life histories which has been carried on in course 301, the student goes into a detailed study of insecticides. Various types of spraying machinery, dusting machines, fumigating apparatus are discussed.

(Elective in X).

403. *Entomological Literature.* (3-2).

The aim of this course is to acquaint the student with the most important works on the classification of insects. Publications of various entomologists are discussed. A review of the more important bulletins published by the United States Department of Agriculture and the various State Experiment Stations is made.

(Elective in X).

405. *Fruit Insects.* (2-2).

This course is intended for students who are specializing in horticulture and who wish more definite information concerning the insect pests of fruit and truck crops. A detailed study is made of the life history, habits and control of the pests of these crops. Special attention is given to control methods adapted to Texas conditions and to the value of parasites and orchard management in the control of insect pests.

(Elective).

407. *Economic Entomology.* (3-2).

Special attention is given to the insects which are directly beneficial or injurious. A study is made of the life history of the important pests of farm crops, fruits, vegetables, and live stock. Methods of control and means of preventing insect outbreaks are given due consideration.

In the laboratory the student studies spraying machinery, fumigating apparatus and dusting machinery, the more important insecticides and makes and applies them when possible.

Text: *Pests of Farm, Orchard and Garden*, Sanderson and Peairs.

(Elective).

408. *Apiculture, Queen Rearing.* (1-4).

The student is given the theory of the various methods of queen rearing. Part of the time is given to the methods of shipping combless packages of bees, and to the management of apiaries.

Text: *Practical Queen Rearing*, Pellet.

(Elective in X).

410. *Seminar.* (0-1).

An informal conference is held once a week with the members of the department in which the student reports on some important problem. Reviews of various entomological publications are given.

(Elective).

FOR GRADUATES.

501, 502. *Research Entomology.* (3-4). *Major.*

A special research problem is assigned to each student taking this course, in which he makes a life history study of some important insect. The student will make a study of all available published literature on this subject. In addition to this, he will make a systematic study of some group of insects, either of the group to which the insect belongs of which he is making a life history study or of some related group.

Laboratory fee, \$2.00 each term.

501a, 502a. Research Entomology. (2-4). Minor.

A modification of course 501, 502.

Laboratory fee, \$2.00.

505, 506. Advanced Apiculture. (3-4). Major.

Part of the time in this course is devoted to a problem in apiary management or in the study of one or more of the diseases affecting bees. Grading and marketing honey, foul brood laws, and methods of eradicating bee diseases are given due consideration.

505a, 506a. Advanced Apiculture. (2-4). Minor.

A modification of course 505, 506.

507, 508. Economic Entomology. (3-4). Major.

In this course a detailed study is made of the most important economic pests. A comparison is made of the structure of insects belonging to the same group which attack our more important crops. In addition to this, cultural methods, trap crops, insecticides, and fumigation are discussed in connection with these insects.

Laboratory fee, \$2.00 each term.

507a, 508a. Economic Entomology. (2-4). Minor.

A modification of course 507, 508.

Laboratory fee, \$2.00.

FOR STUDENTS IN SHORT COURSES.

22. Elementary Economic Entomology. (2-2).

This course is intended for those students who do not have the time to make a careful study of insects but who are interested in obtaining information on the control of our more common pests, together with a knowledge of the commoner insecticides. As far as time permits, a general discussion is made of the most common pests of cotton, wheat, oats, corn, fruits, and live stock.

Laboratory fee, 50 cents.

(Required in C).

56. Elementary Apiculture. (2-2).

A study is made of the habits of the honey bee, behavior in swarming and methods of increase. Most of the time is devoted to a study of the methods of manipulation, transfer, and swarm control.

Laboratory fee, 50 cents.

(Elective in C).

DEPARTMENT OF FARM MANAGEMENT

PROFESSOR WHELPTON, ASSISTANT PROFESSOR WILSON.

304. Farm Cost Accounting. (1-4).

Based on the accounting course given by the Department of Agricultural Economics. Applies to farm conditions the general book-keeping principles and methods, and considers in detail the recording of internal farm transactions; the distribution among the farm enter-

prises of such costs as man labor, horse labor, use of land, and use of buildings; the preparation of cost statements for each enterprise and the business as a whole; the interpretation of these accounts and statements and their application to the organization and management of the farm business.

Text: Farm Accounting, Scovill.

Prerequisite: Agricultural Economics 309.

(Required in I, group 11).

307. *Types of Farming.* (1-2).

A study of the types of farming best adapted to various parts of Texas and the United States, and of the natural and economic reasons that give these types their advantages.

(Required in I, group 11).

401. *Farm Management.* (2-4).

The application of the principles taught in the various agricultural and economic courses to the organization and administration of the individual farm business, the point of view being, "How can I plan and run my farm to achieve the greatest success?" Specific topics are: Farming as a business; types of farming; size, diversity, and quality of business; farm layout and building arrangement; equipping a farm as to labor, work stock, power, and machinery; forms of leasing; choosing and buying a farm; planning work and business transactions; using capital and credit; analyzing business to locate weaknesses; adapting business to changing conditions; planning the organization and management of specific farms.

Text: Farm Management, Warren.

Prerequisite: All sophomore work, and two of the following: Agronomy 301, Agronomy 308, Economics 306.

(Required in I, XII, XV).

402. *Farm Management.* (2-4).

Same as course 401.

Text: Farm Management, Warren.

Prerequisite: All sophomore work, and two of the following: Agronomy 301, Agronomy 308, Animal Husbandry 409.

(Required in XIV).

404. *Farm Records.* (1-4).

How to keep the simple records needed to show how well the farm business is paying and to serve as a basis for making improvements to increase profits. Farm inventories, cash accounts, income tax statements, costs of single enterprises, and other farm records are carefully considered.

(Elective).

406. *Advanced Problems.* (1-2).

An advanced study of such problems as adjusting farm organization and administration to changing farm business conditions. Considers in detail: causes, extent, and probable future trend of changes; their

effect on different groups of farms; possible adjustments as to cost and effect on income and profit; proper time to make adjustments.

Prerequisite: Farm Management 401.

(Required in I, group 11).

408. *Ranch Management.* (2-2).

Farm management principles as they apply particularly to the ranch country of West Texas. Includes size, diversity and quality of business; ranch layout and building arrangement; ranch equipment; using capital and credit; planning the organization and management of specific ranches.

Prerequisite: Farm Management 401.

(Elective).

410. *Business Analysis.* (1-6).

Applying the subject matter of course 401. Successful and unsuccessful farms are visited, their present organization and administration are studied thoroughly to bring out the desirable and undesirable features; their degree of success or failure is correlated with the extent to which sound farm management principles are followed; and careful plans that will rectify existing weaknesses are prepared. Advanced studies of certain farm management principles will be made during the course in connection with their application to the farms visited. One or two trips of two or three days are made to important farming regions at some little distance from the College.

Prerequisite: Farm Management 401 or 402.

(Required in I, group 11).

FOR GRADUATES.

501, 502. *Advanced Farm Management.* (3-4). *Major.*

An intensive study is made of such topics as farm business analysis, types of farming and factors affecting type, and farm management methods. Free use is made of the various farm management technical publications, and certain recent important investigations are carefully studied.

501a, 502a. *Advanced Farm Management.* (2-4). *Minor.*

A modification of course 501, 502.

FOR STUDENTS IN SHORT COURSES.

52. *Elementary Farm Management.* (2-4).

A study of the farm from a business standpoint. The course takes up such business problems confronting the farmer as the most profitable size of farm and combination of crop and live stock enterprises, and how to locate weak places in the business plan that can be improved with resulting profit.

Sufficient time is given to farm accounting in practice periods to show how to keep and use simple records of the farm business. One practice problem will be the equipping of a given farm and the planning and organizing of a year's business.

Text: Farm Management, Boss.

(Elective in C).

DEPARTMENT OF FORESTRY

PROFESSOR SIECKE, ASSISTANT PROFESSOR DREITZLER.

302. *Silviculture.* (2-2).

This course consists of two parts, a study of trees under natural conditions, and the planting and care of shade trees as well as trees set out in shelter-belts, wind-breaks, and wood lots. The first part consists of a study of the life history of trees; the relation of different species to light, moisture, soil, temperature, and the effect of their association on the forest; origin and determination of forest types; the relation of forests to stream flow; description of forests; preparation of forest maps; improvement of young forests; and the proper cutting and use of mature forests so as to secure natural reproduction; silvicultural systems of cutting as practiced in the forests of Europe and the United States.

The second part deals with the species suitable for shade trees and for planting in shelter-belts, wind-breaks and wood lots; cost of planting; care of shade trees, parks and tree plantations; elementary tree surgery.

Text: Principles of Handling Woodlands, Graves. Lectures and field work.

(Elective).

304. *Principles of Forestry.* (2-2).

This course is intended to give the student a general knowledge of forestry, tracing its history from the beginning in European practice to the United States and following its development in this country. In addition, the course consists of a general survey of the fundamental principles underlying forestry, including the relation of forests to soil, moisture, light, and climatic conditions; influences of forests upon stream flow; the important systems of treating woodlands practiced in Europe and in the United States; the habits of important economic timber trees and the character and uses of the more important woods; preparation of forest maps and working plans; methods of estimating standing timber and measuring its growth by the use of various forest instruments; artificial regeneration of forests by seeding and planting, and the best trees for ornamental and shelter-belt planting; effects of forest fires and the study of other important enemies of the forest; a brief treatise on the timber regions of the United States; the amount of standing timber and the consumption of timber; the practice of forestry by the government, particularly on its national forests, and the present status of forestry in the States and among private owners of timber land.

Text: Elements of Forestry, Moon and Brown.

(Elective).

DEPARTMENT OF GEOLOGY

PROFESSOR RANDOLPH, ASSOCIATE PROFESSOR F. A. BURT.

201. *Physical Geography.* (2-2).

Outstanding physiographic processes and resultants; geographical features of the earth as a member of the universal family; oceanography; relief operations; atmospheric agents and resultants; and the relations of these various physiographic influences upon life forms and human welfare.

Laboratory exercises appropriate to these lines of thought are followed out in as thorough manner as time will allow.

Prerequisite: Chemistry 103, 104.

Laboratory fee, \$1.00.

(Elective in X).

202. *Industrial and Commercial Geography.* (2-2).

Humanity in action, as influenced by natural environment and necessity of commerce and industry. In addition to regional knowledge, descriptive and statistical data of ports, trade routes, and economic reasons of size and greatness of such are considered in detail. Various types of geographical industry are discussed from the standpoint of cause and results.

Laboratory exercises suited to the content of the course.

Prerequisite: Geology 201.

Laboratory fee, \$1.00.

(Elective in X).

209. *General Geology.* (3-2).

A critical introduction to dynamical, structural, and historical geology. The dominant geologic processes, together with their resultants, are emphasized. A general working knowledge of the economic and the other associated phases of geology is presented.

The laboratory work includes the megascopic identification of the more common rock-forming minerals and representative members of the common rock groups; introductory map reading; and occasional field excursions.

Laboratory fee, \$1.50.

Prerequisite: Chemistry 101, 102.

(Required in I, XV).

210. *Agricultural Geology.* (2-2).

This specialized phase of geology is a natural outgrowth of facts and materials that are treated in general geology above. The general principles of physical and structural geology are emphasized with special reference to disintegration and decomposition. Much attention is devoted to such topics as these: structure, composition, formation, association, soil values, and other characteristics of rocks and rock forming minerals; the principles of rock-weathering and soil formation; physiographic conditions and processes; erosion, drainage, etc. These topics are treated in such a manner as to relate and properly interpret geology and agriculture.

In the laboratory attention is given to the comparison, composition, and agricultural value of minerals and rocks; the study of maps and models; supplemental study with stereoscopes, etc.

Laboratory fee, \$1.50.

Prerequisite: Geology 209.

(Elective).

212. *Introductory Soil Geology.* (3-2).

The object of this course is to present a concise treatment of the primary fundamentals necessary for teachers who wish to offer work in soil geology and as preparatory work to courses in soils. The first several lectures are devoted to general geology principles and terms. Regular class study is directed along the following lines: the origin, mineralogical composition, distribution, transportation, and fixation of soils; geologic agents such as water, wind, ice, vulcanism, organism, etc.; the influence of rock texture and structure in soil formation; also a consideration of the part played by earth relief.

In laboratory work, careful attention is given to the study and ready identification of the representative, rock-forming minerals, not simply as such but with special reference to their soil values. Among the minerals studied are those with natural fertilizer, aeration, and percolation qualities. The mineralogic composition, texture, structure, and occurrence of the common soil-forming rocks are studied also. Models and regional maps are used for illustrative purposes.

Laboratory fee, \$1.50.

(Required in XII).

301. *General Geology.* (3-2).

Same as course 209.

Laboratory fee, \$1.50.

Prerequisite: Geology 202 in X; Chemistry 102 in XV.

(Elective in X).

302. *Historical Geology.* (3-2).

Practically the entire time is devoted to a careful consideration of the development of the earth from the beginning of geologic time to the present, with special reference to the evolution of the North American continent. Stratigraphy and stratigraphic relationships, and paleontologic principles and content are carefully interpreted. Appropriate attention is given to index fossil studies, structural maps, columnar sections, and environmental conditions.

Laboratory fee, \$2.00.

Prerequisite: Geology 301.

(Elective in X).

306. *General Geology.* (3-3).

Necessarily some phases of this course are similar to fundamentals in course 209, but special attention is given to paving the way for students who will pursue course 409. Critical study is made of structural, dynamic, and metamorphic agencies affecting the general engineering side of geology. Each student is required to familiarize himself with the necessary vocabulary for advanced work.

The laboratory work covers the same materials as in course 209, but is intensified with map and folio readings.

Laboratory fee, \$2.00.

Prerequisite: Chemistry 101, 102.

(Required in IV, VIII; elective in IX).

401. *Mineralogy.* (1-6).

This course is designed to meet the ordinary needs of the elementary student in mineralogy, the mining engineer, the geologist, and the practical layman who may be interested in this subject.

The laboratory exercises include a careful study of a representative number of mineral types, and are both descriptive and determinative in nature. Blowpipe work, simple chemical tests, and the rudiments of crystallography are emphasized.

Laboratory fee, \$2.00.

Prerequisite: Geology 302.

(Elective in X).

404. *Petroleum Geology.* (3-3).

The purpose of this course is to present some of the more important fundamentals that are necessary for those who anticipate becoming actively engaged in prospecting, exploiting, investing, or engineering in oil and gas areas. The student's attention is directed along the following lines: general geological agencies, processes, and resultants; the origin, composition, distribution, association, exploitation, and migration of the hydrocarbons; catchments, stratigraphy, and discovery; well decline, exhaustion, conservation; well and field technology; commercial problems, valuations, etc.

The laboratory work includes a study of rock-forming materials; mineral structures, textures, capillarity, porosity; sedimentation, sedimentaries, and metamorphism in relation to oil and gas occurrences; petroliferous materials; comparative study in well cuttings and well logs; map interpretation and construction; careful study of type areas; field excursions.

Laboratory fee, \$2.00.

Prerequisite: Geology 209.

(Elective in X).

409. *Engineering Geology.* (2-3).

The theoretical side of this subject is emphasized only when necessary, but the practical side is kept prominently in the foreground because agriculture, industry, and commerce are so vitally affected by the work of the engineering geologist. Among the topics to which special attention is devoted are these: geologic agencies determining the exploitation, usability, and value of dimension stones and rough constructional materials; location, extraction, and transportation; labor problems; foundations, drainage, etc.; and the general application of geological principles to engineering problems.

The work in the laboratory pertains to intense study of the common dimension stones and other constructional materials; a rapid survey of the more important metals and non-metals; detail work on structure

sheets; a study of type areas of economic importance; written reports on a comparative study of State and Federal surveys, etc.

Text: Ries and Watson's Engineering Geology.

Laboratory fee, \$1.50.

Prerequisite: Geology 306, Physics 203, 204.

(Elective in IV, groups 1, 2).

412. *General Geology.* (3-3).

Same as course 306.

Laboratory fee, \$2.00.

413. *Economic Geology.* (3-2).

A consideration of the most common and most useful non-metals: coals, clays, building stones, calcareous materials, natural fertilizers, underground waters, etc., with special emphasis upon the geologic, geographic, and associative occurrence of these non-metallic mineral deposits; also, the production, commercial uses, and the conservation of our mineral resources.

In the laboratory work, the student gains first-hand and determinative knowledge of these resources.

Prerequisite: Geology 401.

Laboratory fee, \$2.00.

(Elective in X).

414. *Petrology.* (2-3).

In this course, petrogenesis is considered somewhat in detail. The utility and durability of various genetic rock groups are carefully considered. The areal, stratigraphic, and commercial deposits of useful rocks receive proper attention. A working knowledge of petrology is useful to field geologists, civil engineers, chemists, miners, architects, and teachers in geography and geology.

In addition to the megascopic studies in the laboratory, the students are taught the use of the petrographic microscope in section work; and they are required to do a representative amount of microscopic determinations. Reports and map work are required. This course will prove of special help to any student considering either State or Federal survey work.

Prerequisite: Geology 413.

Laboratory fee, \$2.00.

(Elective in X).

419. *General Geology.* (3-2).

Same as course 306.

Laboratory fee, \$2.00.

DEPARTMENT OF HISTORY

PROFESSOR McDONALD.

206. *Citizenship.* (3-0).

Same as course 305.

(Required in X).

207. *Europe Since 1815.* (3-0).

The aim of this course is to help the student acquire a comprehensive view of the forces and movements of the nineteenth century which culminated in the World War in the twentieth century, including the reaction of the revolutionary and Napoleonic era, the industrial revolution, democratic reforms, nationalism, commercialism, imperialism, international rivalries, the League of Nations, and reconstruction following the World War.

(Required in X).

305. *Citizenship.* (3-0).

The purpose of this course is to prepare the students to render effectively the public services of useful citizens; by helping them acquire the common fund of political knowledge which should be the asset of all citizens; by acquainting them while in college with the political issues of the day; by grounding them in the fundamental principles of civil rights—the rights to life, liberty and the rights of private property, and by helping them see how hardly democracy was won and how easily it may be lost.

(Required in V, XIII).

306. *Citizenship.* (3-0).

Same as course 305.

(Required in all four-year engineering courses).

307. *Europe Since 1815.* (3-0).

Same as course 207.

(Elective in all four-year courses, except X, XI, XII, XIII).

308. *Industrial History of the United States.* (3-0).

In this course the industrial progress of the United States is studied. The expansion of territory, development of natural resources, growth of commerce, organization of labor and capital, the tariff, internal improvements, banking, and the fiscal policy of the national government are considered.

(Required in XIII; elective in all other four-year courses except X, XI, XII).

411, 412. *The Outline of History.* (3-0).

This course is designed to give seniors a grasp of the adventures and achievements of mankind, to enable them to adjust in proper proportion the scientific and social facts which they have already acquired, and to help them realize the position in relation to universal history which each occupies as an individual and as a member of a profession

and of a nation. The course is based upon the use of a text-book, but is largely supplemented by lectures on the geological, biological, economic, agricultural, educational, and artistic phases of history. These lectures will be delivered by members of the teaching staff in various departments of the College, and the course will, therefore, be synthetic and co-operative in character.

Director of the course, Mr. Thomas F. Mayo; lecturers, President W. B. Bizzell, Dr. O. M. Ball, Dr. Mark Francis, Dr. F. B. Clark, Professor F. A. Buechel, Professor J. F. McDonald, Professor E. B. LaRoche, Mr. C. E. Friley, Professor G. A. Geist, Dr. C. B. Campbell, Mr. D. X. Bible, and Dr. E. H. Harper.

(Elective for seniors in all courses).

DEPARTMENT OF HORTICULTURE

PROFESSOR KYLE, PROFESSORS POTTS, HENSEL, ASSISTANT PROFESSORS ADRIANCE, BRISON.

201. *Plant Propagation and Orcharding.* (2-2).

Lectures and recitations on the fundamental principles and methods of plant propagation, including vegetables, fruits and ornamentals. The methods of planting and managing the home orchard are also covered.

Lectures and recitations.

Practice is given in propagation of plants from seed, budding, grafting, and in planning, planting, pruning, spraying, and general care of the home orchard.

Text: *Plant Propagation*, Kains. Lectures.

Laboratory fee, 75 cents.

Prerequisite: Biology 101, 102.

(Required in I. XII).

202. *Vegetable Gardening.* (2-2).

Detailed instruction in planning, planting, equipping and operating vegetable gardens, with special reference to the needs of the home. Canning and storage of vegetable crops for home use also receive consideration.

Text: *Garden Farming*, Corbett. Lectures and references.

The practice is devoted to planning, planting and cultivating a small garden, equipping, fertilizing, spraying, harvesting, erection of hot-beds and cold frames.

Laboratory fee, 75 cents.

(Elective in I, XII, XIV; C).

303. *Principles of Fruit Production.* (3-2).

This course includes a comprehensive study of orchard management, including problems of location, soils, planting, cultivating, protection from insects and diseases, pruning, harvesting and marketing.

The laboratory work consists of the actual practice in orchard work from planting to marketing.

Text: Principles of Fruit Growing, Bailey. Lectures and recitations.
Laboratory fee, \$1.00.
Prerequisite: Horticulture 201.
(Required in I, group 9).

304. Nut Culture. (1-4).

This course includes a study of those nuts which are of the greatest economic importance. Special attention is given to the native nuts. Top-working the native pecan and hickory to improved varieties of pecans is fully discussed.

Lectures and recitations.

Practice is given in budding and grafting pecans in the nursery row; also in top-working native pecans to improved varieties by means of the patch, chip, crown budding and grafting. A systematic study is made of the standard varieties of nuts.

Laboratory fee, \$1.50.

Prerequisite: Horticulture 201.

(Elective in C).

307. Introduction to Landscape Art. (2-2).

A course designed both for students specializing in Landscape Design and for those wishing a general course, sufficiently comprehensive to enable them to properly plan small home and school grounds.

Practice consists of the drawing of plans for the small home grounds, school grounds and other public and semi-public places.

(Required in I, group 10).

308. History of Landscape Design. (2-0).

A comprehensive study of the development of landscape design.

Illustrated lectures and recitations.

(Required in I, group 10).

310. Commercial Vegetable Production. (2-2).

In this course a study is made of the production of vegetables for market. Consideration is given climate, soil, equipment and storage, as they affect production and marketing in Texas and other States. The chief vegetable crops receive detailed study.

Lectures and recitations.

Practice is given in the actual production, harvesting and marketing of vegetable crops.

Laboratory fee, \$2.00.

Prerequisite: Horticulture 202.

(Required in I, group 9).

312. Vegetable Gardening. (2-2).

Same as course 202.

Laboratory fee, 50 cents.

(Required in XV).

401. Systematic Pomology. (3-2).

A technical course covering deciduous fruits, their identification,

classification, distribution, importance, and history, and a detailed study of the more important species and varieties.

Practice is given with such fruits as can be obtained during the season.

Laboratory fee, \$4.00.

Prerequisite: Horticulture 303.

(Required in I, group 9).

404. *Commercial Horticulture.* (2-2).

This course includes a study of the most satisfactory methods of harvesting, grading, packing, shipping, storage and selling of fruits and vegetables. Co-operative and the various other selling agencies receive attention.

Lectures and recitations.

Laboratory fee, \$2.00.

Prerequisite: Horticulture 202, 303.

(Required in I, group 9).

405. *Bush and Vine Fruits.* (2-2).

This course consists of a study of the propagation, culture, harvesting and marketing of small fruits, such as the blackberry, dewberry, strawberry, grape, etc. Attention is given to the varieties best adapted to Texas conditions.

Lectures and recitations.

Practice is given in planning, planting, pruning, spraying and general field management.

Laboratory fee, \$1.00.

(Elective).

408. *Floriculture.* (2-2).

This course is designed to give the student a working knowledge of the culture and use of the annuals, perennials, and bulbous plants especially adapted to our climatic conditions. Home adornment with flower beds, flower borders, window boxes, and plants for the living room is the salient thought throughout the course.

Text: White's Principles of Floriculture.

Practice is given in the growing, transplanting and care of a few of the most useful plants.

Lectures and recitations.

Laboratory fee, \$2.00.

Prerequisite: Horticulture 201.

(Required in I, group 10).

412. *Horticultural By-products.* (1-4).

This course is designed to enable the grower to utilize surplus products of the orchard and garden or to save by canning the higher grades when prices are low.

Lectures and recitations.

Practice is given in the manufacture of fruit juices, preserves, jelly, soup stock, canning, and drying.

Laboratory fee, \$1.00.

(Elective).

413. *Seminar.* (0-2).

This course is planned to cover, by informal discussions, a large number of timely horticultural topics. Any problems the horticultural student meets may be submitted for discussion. A rather complete review of horticultural books, journals, and periodicals is made. Time is also given to the study of market and storage reports.

(Elective).

414. *Ornamentals.* (2-2).

This course embraces a thorough study of the ornamentals adapted to Southern conditions.

Lectures and recitations.

Practice is given in the propagation and classification of ornamentals.

Laboratory fee, \$2.00.

Prerequisite: Horticulture 201.

(Required in I, group 10).

415. *Landscape Design.* (3-4).

This course gives the principles underlying Landscape Art. It also deals with the solving and drafting of problems dealing with landscape work.

Lectures and recitations.

Text: Landscape Architecture, Hubbard and Kimball.

Prerequisite: Horticulture 307, or its equivalent.

(Required in I, group 10).

416. *Landscape Design.* (3-4).

A continuation of course 415.

Text: To be assigned.

(Required in I, group 10).

417. *Civic Improvement.* (2-0).

This course includes the fundamental principles of city planning; the study of streets, sidewalks, civic centers, and the general improvement of public and semi-public properties.

Text: City Planning, C. M. Robinson.

(Required in I, group 10).

419, 420. *Experimental Horticulture.* (1-0, 0-4).

A study of research methods and the planning and execution of a project along horticultural lines. The student is expected to become thoroughly familiar with all phases of his problem and to execute the work in a creditable manner. The project statement must be submitted by December 15 and completed by commencement.

Lectures and assignments.

Laboratory fee, \$4.00, second term.

(Elective).

422. *Subtropical Fruits.* (3-2).

A study of all the species of subtropical fruits. Special attention is given to the growing of citrus fruits, figs, olives, dates, and other hardy varieties of tropical and subtropical fruits.

Lectures and recitations.

Practice in the study of the various fruits and in the propagation of the different species of subtropical trees. Orchard heating is given attention.

Laboratory fee, \$4.00.

(Elective).

424. *Commercial Fruit Production.* (1-4).

This course is designed to include a study of the more specialized features of fruit production, such as fruit setting and thinning, summer pruning, spring and summer cultivation and orchard practice, application of fertilizers, and spraying to control brown rot, pecan scab, case bearer, and curculio.

An opportunity is given the students to harvest, grade, pack, and market the earlier-maturing fruits. The commercial aspect of fruit production is considered at all times.

Practice includes field work in pruning, spraying, applying fertilizers, harvesting and marketing fruit.

Text: To be assigned.

Lectures and recitations.

Laboratory fee, \$1.00.

Prerequisite: Horticulture 303.

(Elective).

FOR GRADUATES.

501, 502. *Advanced Fruit Growing.* (3-4). *Major.*

This course includes an advanced study of fruit production. Special attention is given to the problems of cultivation, fertilization, pruning, thinning of fruit and protection from frost and insect pests and disease. A special study is made of the improvement of fruit by means of bud selection and breeding.

Prerequisite: Horticulture 302, 303, 401, or equivalent work.

501a, 502a. *Advanced Fruit Growing.* (2-4). *Minor.*

A modification of course 501, 502.

503, 504. *Advanced Vegetable Gardening.* (3-4). *Major.*

In this course an advanced study is made of the latest methods used in the successful production of vegetables for market and truck gardening purposes. A special study is made of the systems of irrigation. Considerable time is also devoted to a study of the more advanced methods of forcing plants for early market. This course also includes a study of the development of plants by breeding and selection.

Prerequisite: Biology 101, 102, Horticulture 202, 301, 404, 420, or equivalent work.

503a, 504a. *Advanced Vegetable Gardening.* (2-4). *Minor.*

A modification of course 503, 504.

505, 506. *Advanced Landscape Art.* (3-4). *Major.*

Advanced landscape design, including the gathering of data, making of preliminary reports, detailed working plan, specifications, including

nursery list of prices, and a finished water color rendering of the problem assigned.

Prerequisite: Civil Engineering, 319, Drawing 316, Horticulture 407, 415, 416, or equivalent work.

505a, 506a. *Advanced Landscape Art.* (2-4). *Minor.*

A modification of course 505, 506.

FOR STUDENTS IN SHORT COURSES.

21. *Plant Culture and Propagation.* (2-2).

Similar to course 201, except that orcharding is omitted.

Lectures and recitations.

Practice work in the propagation of seedlings and the different forms of budding and grafting, layering, etc.

Laboratory fee, 75 cents.

Text: Principles of Plant Culture, Goff.

(Required in C).

53. *Tree and Vine Fruits.* (3-2).

A practical study is made of fruit growing. This includes the problems of planting, cultivating, pruning, harvesting and marketing.

Lectures and recitations.

Text: Productive Orchardng, Sears.

Practice is given in laying out orchards, planting, spraying, pruning, etc.

Laboratory fee, \$1.00.

Prerequisite: Horticulture 21.

(Elective in C).

60. *Pecans.* (1-4).

In this course a practical study is made of pecans, including the planting and care of trees for nursery purposes, the development of groves to improved varieties and the converting of native seedlings to improved varieties.

Lectures and recitations.

Practice is given in planting pecans and in the various forms of propagation.

Prerequisite: Horticulture 21.

Laboratory fee, 75 cents.

(Elective).

DEPARTMENT OF MATHEMATICS

PROFESSOR PURYEAR, PROFESSOR R. F. SMITH, ASSOCIATE PROFESSORS
J. W. MITCHELL, HALPERIN, D. C. JONES, PORTER, ASSISTANT
PROFESSORS COX, A. D. MARTIN, HUGHES, P. K. SMITH,
MR. FRARY, MR. McCURRY.

101, 102. *Algebra.* (3-0).

A rapid review of elementary topics, followed by the study of quadratic equations, the binomial theorem, variation, the progressions, com-

plex numbers; elementary theory of equations, logarithms, limits, undetermined co-efficients.

Review of certain topics of preceding courses.

Text: College Algebra, Ford. Supplementary exercises.

(Required in all four-year engineering courses and in IX, XIII, XIV; course 101 in X).

103. *Plane Trigonometry.* (3-0).

Measurement of angles, review of logarithms, solution of right triangles, problems of heights and distances, properties of triangles, solution of oblique triangles, geometrical applications.

Text: Plane and Spherical Trigonometry, Taylor and Puryear.

(Required in all four-year engineering courses; in IX, XIII; elective in XIV).

104. *Analytics.* (3-0).

The straight line, transformation of co-ordinates, circle, ellipse, parabola, hyperbola, graphs of trigonometric, logarithmic and exponential functions.

Review of certain topics of preceding courses.

Text: Analytic Geometry, Riggs. Supplementary exercises.

Prerequisite: Mathematics 101, 103.

(Required in all four-year engineering courses and in IX, XIII; elective in XIV).

106. *Trigonometry.* (3-0).

Same as course 103.

(Required in X; elective in XIV).

108. *Agricultural.* (3-0).

Elementary principles of arithmetic, algebra, geometry, trigonometry, with special reference to the needs of agricultural students.

Text: Mathematics for Students of Agriculture, Rasor.

(Required in I).

118. *Solid Geometry.* (3-0).

Definitions, lines and planes in space, dihedral angles, polyhedral angles, polyhedrons, the cylinder, cone and sphere.

Text: Solid Geometry, Wentworth-Smith.

(Required as an extra study of freshmen in the School of Engineering who do not present solid geometry for admission).

203, 204. *Calculus.* (5-0).

Differentiation, limits, infinitesimals, integration, maxima and minima, areas, volumes, water pressure, work, introduction to solid geometry, moment of inertia, center of gravity, radius of curvature, Taylor's theorem, elementary examples of differential equations.

Review of certain topics of preceding courses.

Text: Calculus, Woods and Bailey. Supplementary exercises.

Prerequisite: Mathematics 104.

(Required in III, IV, V, IX, group 2, XV; elective in X, XIV).

205. Calculus. (5-0).

A modification of courses 203, 204.

Text: Calculus and Graphs, Passano.

Prerequisite: Mathematics 102, 103.

(Required in VI, VIII).

207, 208. Mathematical Theory of Investment. (3-0).

Review of progressions, limits, series, logarithms; graphs, interest, annuities; amortization, bonds, sinking funds and depreciation, probability, life insurance.

Text: The Mathematical Theory of Investment, Skinner.

Prerequisite: Mathematics 102.

(Elective in XIV).

DEPARTMENT OF MECHANICAL ENGINEERING

PROFESSOR FERMIER, PROFESSORS H. E. SMITH, MERCER, ASSOCIATE PROFESSOR PETERSON, ASSISTANT PROFESSORS MILTON, CRAWFORD, BREWER, MR. CHAPPELLE, MR. DOWNARD, MR. KUNZ, MR. LAURSEN, MR. LUNDBERG, MR. MCCARTER.

103. Woodwork. (0-3).

Shop practice in the use of the common bench tools and power machinery for working in wood, as applied to joinery, elements of construction, and cabinet making. Practice in the use of shop records, systems, etc., is also given. Special work is provided for those who have had manual training before entering.

Laboratory fee, \$1.50.

(Required in courses III, IV, V, VI, VIII, XIII, XV).

104. Forging. (0-3).

Shop practice in the use of blacksmith and general forge tools in the working of iron and steel. Also tempering, annealing, welding, case-hardening, etc.

Laboratory fee, \$1.50.

(Required in courses III, IV, V, VI, VIII, XIII, XV).

NOTE.—Courses 103 and 104 together constitute a year's work, three hours a week. Students taking this work will be divided into two groups at the beginning of the first term; one group will begin with course 103 and the other with course 104. At the beginning of the second term the groups will each change to the other work.

201. Pattern Making and Foundry Work. (0-3).

Shop practice in pattern making, molding, and casting in iron and brass.

Laboratory fee, \$2.00.

Prerequisite: Mechanical Engineering 103.

(Required in III, V, XIII).

202. Pattern Making and Foundry Work. (0-3).

A continuation of course 201, including also methods of factory production.

Laboratory fee, \$1.50.
(Required in III).

205. *Elementary Steam Engineering.* (2-0).

This course aims to give the student such a knowledge of steam power plant equipment as will enable him to understand the operation of the same, and serve as a foundation for subsequent study and calculation along these lines. Valve gears, valve diagrams, and indicator practice are also included.

Text: *Elementary Steam Engineering*, Spangler.

Prerequisite: Mathematics 103.

(Required in IV, VI, XIII).

206. *Steam Engineering.* (4-0).

An elaboration of course 205.

Text: *Heat Engines*, Allen and Bursley.

Prerequisite: Mathematics 203 or 205.

(Required in VIII).

207. *Kinematics.* (2-2).

Without taking account of the strength of the structure, this course takes up the study of motion, velocity ratios, comparative forces, etc., in machines and their elemental parts.

Text: *Mechanism*, Keown.

Prerequisite: Mathematics 104.

(Required in III).

208. *Kinematics.* (2-2).

The same as course 207 with specially chosen problems.

(Required in VI).

209. *Machine Shop.* (0-3).

Same as course 309.

Laboratory fee, \$1.50.

(Required in XV).

211. *Carpentry and Cabinet Making.* (0-3).

This course consists of the following two lines of practice:

(a) The carpentry of wood building construction, in which are included making out bills of lumber and hardware for building, laying out rafters, stairs, etc., methods of framing, inside finish, etc.

(b) Cabinet making, including wood seasoning, accurate construction in hardwood, wood finishing, making of mill bills, also a limited amount of designing of simple cabinets.

Laboratory fee, \$2.00.

Prerequisite: Mechanical Engineering 103.

(Required in XIII).

212. *Engineering Mechanics.* (3-0).

A study of pure mechanics as the foundation principles involved in the analytical solution of problems concerning the statics and dynamics

of a material point and of a rigid body; with numerous numerical examples from practical engineering questions.

Prerequisite: Mathematics 203.

Must be preceded or accompanied by Mathematics 204.

(Required in III).

214. Machine Shop Practice. (0-3).

A modification of course 309, 310.

Laboratory fee, \$1.50.

(Required in V).

218. Engineering Laboratory. (0-3).

A modification of course 403, 404.

Laboratory fee, \$1.00.

Must be preceded or accompanied by Mechanical Engineering 206.

(Required in VIII).

302. Steam Engines and Boilers. (5-0).

A study of fuels; combustion; the generation of steam; the construction, operation, care, design and testing of boilers of various types, together with the design of chimneys and other means of producing draft. Also a study of the elementary thermodynamics of heat engines, the mechanics, construction, design, operation and testing of the steam engine.

Text: Heat Engines, Allen and Bursley.

Prerequisite: Mathematics 204, Chemistry 101, 102, Physics 203, 204.

(Required in V).

303, 304. Machine Design. (0-3, 0-4).

This course consists of practice in the design of machine elements, and their proper representation by finished shop drawings.

Text: No text is required, but each student is required to have a Mark's handbook.

Prerequisite: Mathematics 204, Mechanical Engineering 212; must also be preceded or accompanied by Civil Engineering 305 and Mechanical Engineering 313.

(Required in III).

307. Kinematics. (2-2).

The same as course 207.

(Required in V).

309. Machine Shop. (0-3).

Practice in bench and machine tool work in metals. This includes chipping, scraping, filing, babbiting, pipe fitting, drilling, turning, boring, grinding, milling machine work, etc.

Laboratory fee, \$1.50.

Prerequisite: Mechanical Engineering 104.

(Required in III, VI, XIII).

310. *Machine Shop.* (0-3).

A continuation of course 309, including also tool making and heat treatment of steel; with application of factory production methods.

Laboratory fee, \$1.50.

(Required in III, XIII).

313, 314. *Engineering Mechanics.* (3-0).

A continuation of course 212, including also dynamics of rotation, work, energy, friction, impact, etc.

(Required in III).

317. *Engineering Mechanics.* (4-0).

A modification of courses 212, 313, 314.

(Required in V).

319. *Engines and Boilers.* (4-0).

A modification of course 302, with the same prerequisites and text.

(Required in III).

320. *Thermodynamics.* (4-0).

This course embraces a study of the effects of heat upon gases, and the application of thermodynamic laws and principles to the steam engine, gas engine, hot-air engine, injectors, calorimeters, etc., together with a study of heat efficiencies of these machines and instruments.

Text: Applied Thermodynamics for Engineers, Ellis.

Prerequisite: Mechanical Engineering 319.

(Required in III).

403, 404. *Engineering Laboratory.* (0-4).

Instruction and practice in testing gauges, indicators, fans, pumps, boilers, engines, etc.; also a study of the actual mechanical operation of various machines.

In addition to the work with the apparatus, the students will be expected to make calculations and written reports on the investigations and the results obtained.

Laboratory fee, \$1.00 each term.

Prerequisite: Mechanical Engineering 319, 320.

(Required in III).

407. *Mechanical Refrigeration.* (2-0).

The application of the principles of thermodynamics to mechanical refrigeration. Also a study of different kinds of equipment and methods of practical production of refrigeration and ice making.

Prerequisite: Mechanical Engineering 320.

(Required in III, group 1).

410. *Gas Engines.* (3-0).

The application of the principles of thermodynamics to the design of gas engines. Also a study of the different cycles, methods of governing, and some details of design construction, operation and care of various types of gas engines and other internal combustion motors.

Text: Internal Combustion Engines, Streeter.

Prerequisite: Mechanical Engineering 320.

(Required in III).

412. History and Biography. (3-0).

A study of the lives of men who have been contributors to engineering development. Also a study of the history of the development of appliances and invention in mechanical engineering.

Lectures and reference reading are the sources of material for this course, for which no text-book is required.

Prerequisite: Senior classification.

(Required in III).

414. Steam Turbines. (2-0).

A study of the types and designs of steam turbines, their efficiencies and their operation.

Text: Steam Turbines, Moyer.

Prerequisite: Mechanical Engineering 320.

(Required in III, group 1).

415, 416. Engineering Laboratory. (0-3).

A modification of course 403, 404.

Laboratory fee, \$1.00 each term.

(Required in V).

417, 418. Power Plants and Equipment. (2-4).

A study of the design of power plants, and their equipment is taken up in this course. Choice and arrangement of equipment are studied from the standpoint of economy of material and labor, as well as from the standpoint of general efficiency.

Text: Engineering of Power Plants, Fernald and Orrok.

Prerequisite: Mechanical Engineering 320.

(Required in III, group 1).

419, 420. Industrial Engineering. (3-2).

A study of the industrial plant, including building and equipment; from the standpoint of health of workers as well as from the standpoint of suitability for the industrial processes involved.

Lectures and collateral reading are the chief sources in this course. Practice will include reports, also detailed sketches and drawings covering definitely chosen conditions.

Prerequisite: Senior classification. This course must be taken concurrently with 421, 422.

(Required in III, group 2).

421, 422. Methods and Management. (2-0).

A study of the general principles of shop management and shop methods as used in plants and factories whose output is largely the product of machine tools and similar equipment.

Prerequisite: Must be taken concurrently with 419, 420.

(Required in III, group 2).

423, 424. Transportation. (2-0).

A study of general means of transportation from the standpoint of commerce as well as the conveying of materials in industrial plants and in construction work.

Lectures and collateral reading are the sources of subject matter for this course.

Prerequisite: Senior classification.

(Required in III, group 3).

425, 426. Railway Mechanical Engineering. (2-4).

A study of types and the design of railway rolling stock and a study of locomotive performance.

Prerequisite: Mechanical Engineering 319.

Laboratory fee, \$1.50 each term.

(Required in III, group 3).

FOR STUDENTS IN SHORT COURSES.

21, 22. Power and Heat. (4-0).

A study of shop mathematics, elementary mechanics, and the fundamentals of fuels, and heat as a source of power.

(Required in H).

25. Forging. (0-4).

A modification of course 104.

Laboratory fee, \$1.50.

(Required in H).

26. Woodwork. (0-4).

A modification of course 103.

Laboratory fee, \$1.50.

(Required in H).

61, 62. Foundry and Machine Shop. (0-3).

A modification of course 309, 310.

Laboratory fee, \$1.50 each term.

Prerequisite: Mechanical Engineering 25, 26.

(Required in H, N).

63, 64. Engineering Laboratory. (0-3).

A modification of course 403, 404.

Laboratory fee, \$1.00 each term.

(Required in N).

65, 66. Shop Methods. (3-2).

(Required in N, group 2).

71, 72. Foundry and Machine Shop. (0-5).

A modification of courses 309, 310, and 201.

Laboratory fee, \$2.00 each term.

(Required in N).

75, 76. *Steam Engines and Boilers.* (4-0).

A modification of course 302, with special emphasis on the practical work.

Prerequisite: Mechanical Engineering 21, 22.

(Required in H, N).

DEPARTMENT OF MILITARY SCIENCE AND TACTICS

PROFESSOR: COLONEL TODD. PROFESSORS: MAJOR MORRIS, CAPTAIN KURTZ, MAJOR RUSSELL, CAPTAIN DAVIS, CAPTAIN COUGHLAN.

ASSISTANT PROFESSORS: CAPTAIN DEROHAN, CAPTAIN TARBOX, LIEUTENANT SEARIGHT, CAPTAIN FITZGERALD, LIEUTENANT RUTH.

INFANTRY UNIT.

PROFESSOR: WILLIAM H. H. MORRIS, JR., *Major of Infantry.*

ASSISTANT PROFESSOR: F. J. DE ROHAN, *Captain of Infantry.*

ASSISTANT PROFESSOR: J. O. TARBOX, *Captain of Infantry.*

ASSISTANT PROFESSOR H. S. RUTH, *Second Lieutenant of Infantry.*

101. (1-2).

(a) Theoretical: Military organization; military courtesy and discipline; rifle marksmanship.

(b) Practical: Infantry drill; care of equipment; physical training.

102. (1-2).

(a) Theoretical: Infantry drill.

(b) Practical: Physical training; infantry drill; guard duty; preliminary target practice; gallery practice; rifle practice; military ceremonies; scouting; patrolling.

201. (1-2).

(a) Theoretical: Hygiene; sanitation; first aid; military sketching and map reading.

(b) Practical: Automatic rifle; command and leadership as corporals; musketry.

202. (1-2).

(a) Theoretical: Military sketching and map reading.

(b) Practical: Military sketching; range practice; maneuvers; command and leadership as corporals; grenades; bayonet; musketry.

301. (3-2).

(a) Theoretical: Machine guns; field engineering.

(b) Practical: Command and leadership as sergeants; field engineering; machine gunnery; one pounder; light mortar.

302. (3-2).

- (a) Theoretical: Military law; field engineering continued.
- (b) Practical: Command and leadership as sergeants; field engineering; one-pound gun; trench mortar.

401. (3-2).

- (a) Theoretical: Minor tactics.
- (b) Practical: Command and leadership as officers and instructors; pistol.

402. (3-2).

- (a) Theoretical: Minor tactics; military history and policy; military administration.
- (b) Practical: Command and leadership as officers and instructors; pistol.

CAVALRY UNIT.

PROFESSOR: MAJOR J. F. DAVIS, *Cavalry*.

ASSISTANT PROFESSOR: CAPTAIN H. J. FITZGERALD, *Cavalry*.

107. (1-2).

- (a) Theoretical: Organization and administration; military courtesy and customs; cavalry drill regulations to include the school of the troop; interior guard duty; care of animals and equipment.
- (b) Practical: Organization of a unit; performance of guard duty; cavalry drill to include school of the troop; equitation; care of animals and equipment; physical training.

108. (1-2).

- (a) Theoretical: Cavalry drill regulations to include school of the troop; ceremonies and inspections; cavalry weapons, saber, rifle; the cavalry pack; minor tactics; patrols; message and reports; preliminary range instruction.
- (b) Practical: Cavalry drill to include the school of the troop; ceremonies and inspections; preliminary range instruction; gallery practice; range practice; saber exercise; patrolling, mounted and dismounted; message carrying and reports; equitation and jumping; physical training.

207. (1-2).

- (a) Theoretical: Map reading and military sketching; cavalry drill, close and extended order, including school of the troop; ceremonies and inspections; cavalry combat; development and employment of cavalry; march discipline and routine; military hygiene; first aid.
- (b) Practical: Instructors in 107 (b), 108 (b); problems in map reading; sketching; road sketch; position sketch; physical training; cavalry drill to include school of the troop; equitation and jumping; ceremonies and inspections; cavalry combat (troop); practice marches.

208. (1-2).

- (a) Theoretical: The cavalry pack, dismounted; cavalry weapons, pistol, automatic rifle; cavalry drill to include school of the troop;

equitation and jumping; minor tactics; covering detachments; advance flank rear guards; outposts; musketry.

(b) Practical: Instructors in 107 (b), 108 (b); cavalry drill to include school of the troop; ceremonies and inspections; cavalry combat; equitation and jumping; practice marches; cavalry pack, mounted; preliminary instruction in marksmanship, gallery and range practice; the automatic rifle and machine guns; minor tactics, tactical walks, tactical exercises, physical training.

307. (3-2).

(a) Theoretical: Park riding; cavalry drill to include school of the regiment; cavalry combat, squadron and higher units; light artillery; equitation and jumping; ceremonies and inspection; machine gun; care and selection of animals.

(b) Practical: Instructors in 107 (b), 108 (b), 207 (b), 208 (b); cavalry to include the school of the troop; cavalry combat; tactical exercises; tactical ride; ceremonies and inspections; equitation and jumping.

308. (3-2).

(a) Theoretical: Hippology; selection and care of animals; horseshoeing; cavalry drill to include the school of the troop; cavalry combat; tactical rides and exercises; equitation and jumping; military law.

(b) Practical: Instructors in 107 (b), 108 (b), 207 (b), 208 (b); practical packing; selection and care of animals; horseshoeing; cavalry drill to include school of the troop; cavalry combat; Tactical Rides and exercises; equitation and jumping; military law; moot court.

407. (3-2).

(a) Theoretical: Military history and policy of the United States; cavalry drill, including school of the regiment; military law and rules and land warfare; equitation and jumping; ceremonies and inspections.

(b) Practical: Instructors in 107 (b), 108 (b), 207 (b), 208 (b); cavalry drill to include school of the troop; cavalry combat; tactical walks and exercises; park riding; practical packing; ceremonies and inspections.

408. (3-2).

(a) Theoretical: Minor tactics; field service regulations; map maneuvers, relief maps, sand table problems; administration; packing and transportation; cavalry drill, including school of the regiment; field exercises; advanced equitation.

(b) Practical: Instructors in 107 (b), 108 (b), 207 (b), 208 (b); leaders in tactical exercises; tactical leaders; participation in tactical exercises as leaders; cavalry combat; ceremonies and inspections; cavalry drill to include school of the troop; advanced equitation; practical packing.

FIELD ARTILLERY UNIT.

PROFESSOR: CAPTAIN J. D. COUGHLAN.

ASSISTANT PROFESSOR: FIRST LIEUTENANT H. F. SEARIGHT.

103. (1-2).

(a) Theoretical: Fundamentals of military science. Organization and administration. Military hygiene, first aid, and sanitation. Military courtesy and discipline. Customs of the service. Military leadership and morale. Field artillery drill regulations to include school of *firing battery*. The elements of field artillery gunnery; definitions, the military elements of the trajectory and the calculation, determination of firing data and its use by cannoneers, duties of the cannoneer.

(b) Practical: School of the soldier, squad and battery, dismounted, standing gun drill, gunner's instruction, firing battery, interior guard duty, manual of the pistol, physical training, ceremonies.

104. (1-2).

(a) Theoretical: Field artillery material—guns, types, construction, mechanical principles, principles of design. Field artillery carriages, design, construction, tools, accessories, equipment, methods of carrying same; disassembling and assembling various parts of gun, lubrication, cleaning, sights, quadrants, fuse setters, fire control, instruments, care; ammunition: powders, explosives, detonators, primers, projectiles, fuzes; description, care and use.

(b) Practical: Standing gun drill, gunner's instruction, firing battery, machine guns, use and care of individual equipment, physical training, ceremonies, gunner's examination.

203. (1-2).

(a) Theoretical: Stable management: hippology, equitation, draft.

(b) Practical: Equitation, the soldier mounted. Care of horses and equipment. Adjustment of harness.

204. (1-2).

(a) Theoretical: Draft, the battery mounted. Gas engines. Map reading and topography.

(b) Practical: Draft, the battery mounted. Military sketching. Operation and care of artillery trucks and tractors.

303. (3-2).

(a) Theoretical: Field artillery drill regulations, gunnery, and artillery firing.

(b) Practical: Use of fire control instruments, determination of firing data. Smoke bomb firing.

304. (3-2).

(a) Theoretical: Artillery firing; percussion precision firing, lateral observation, use of range tables, artillery firing maps, etc. Field artillery tactics, organization, communication, and reconnaissance.

(b) Practical: Conduct and observation of fire terrain board. Reconnaissance. Non-commissioned officers, with battery mounted. Communications.

403. (3-2).

(a) Theoretical: Administration and army paper work. Military law. Artillery tactics.

(b) Practical: Duties as battery officers and instructors.

404. (3-2).

(a) Theoretical: Artillery tactics. Military history and policy of the United States.

(b) Practical: Same as 403 (b).

SIGNAL CORPS UNIT.

PROFESSOR: CAPTAIN LAWRENCE A. KURTZ, *Signal Corps*.

105. (1-2).

(a) Theoretical: Organization of army, hygiene, first aid, military courtesies, interior guard duty, infantry drills, automatic pistol, military telephones.

(b) Practical: Infantry drill, operation of radio sets and military telephones.

106. (1-2).

(a) Theoretical: Lectures on army organization, lines of communication, pistol marksmanship, telephone net.

(b) Practical: Drill, message sending by radio telegraph, telegraph operating, military telephone line construction.

205, 206. (1-2).

(a) Theoretical: Lectures on army organization, lines of communication, map reading and making, and technical equipment used by Signal Corps, radio procedure.

(b) Practical: Drill, field buzzer, telephones, military map making, construction of telephone lines, operation of switchboards, radio telegraph and telephone operation in the field.

305, 306. (1-2, 0-2).

(a) Theoretical: Drill, minor tactics of line troops, organization and tactics of all arms to include division signal tactics, message centers, codes and ciphers, line route maps, etc., staff organization and duties.

(b) Practical: Putting the above theoretical work into field practice. In addition to the above the student must complete Electrical Engineering 309 and 310.

(Elective in V).

405, 406. (0-2, 1-2).

(a) Theoretical: Military history and policy of the United States,

administration, hippology, telephone net construction, field engineering, military law and rules of land warfare.

(b) Practical: Handling of organizations in practical signal corps field duty, technical and tactical operation of radio telegraph and telephones.

In addition to the above the student must complete Electrical Engineering 409 and 410.

AIR SERVICE UNIT.

PROFESSOR: C. W. RUSSELL, *Major, Air Service.*

109, 110. *Elementary Subjects of Military Training. (1-2).*

(a) Theoretical: Organization and administration of company and squadron; duties of commanders; military courtesies and customs of the service; interior guard duty; infantry drill; nomenclature, care and handling of pistol and rifle; history of aeronautics; employment of air service, air service organization.

(b) Practical: Organizing the unit, assignment of leaders; performance of guard duty; infantry drill; rifle and pistol practice; visual signalling and buzzer.

209, 210. *(1-2).*

(a) Theoretical: Military sketching and map reading; infantry drill, principles of leadership; air service weapons, automatic rifle and aerial machine guns; aerial sights and principles of aerial gunnery; synchronized gears; military hygiene.

(b) Practical: Map sketching, infantry drill; machine gun, rifle and pistol firing; nomenclature and stripping of machine guns; problems in minor tactics; radio.

309, 310. *(3-2).*

(a) Theoretical: Field engineering, construction of trenches and obstacles; minor tactics, offensive and defensive conduct of small units; artillery and infantry liaison; radio, aerial photography, types of cameras, interpretation of aerial photographs, map making from aerial photographs; aeronautical engines, principles of engines, carburetors, ignition, lubrication, cooling, trouble shooting, types of engines; aerial gunnery; aerial bombing.

(b) Practical: Trench construction; map maneuvers; radio practice; construction of mosaic from aerial photographs; assembling aeronautical engines.

409, 410. *(3-2).*

(a) Theoretical: Military history and policy of the United States; development of aeronautics; military law and rules of land warfare; administration of the squadron; advanced radio communications; aerial navigation and meteorology; air service organization, operations, aerial tactics, bombardment, pursuit and attack duties of air service officers; methods of teaching flying, airplanes, theory of flight, nomenclature, rigging, repair of machines; airplane instruments; types of airplanes.

(b) Practical: Radio communications; rigging, repair of machines.

FOR STUDENTS IN SHORT COURSES.

Infantry.

11, 12. (1-2).

Same as courses 101, 102.

51, 52. (1-2).

Same as courses 201, 202.

Field Artillery.

13, 14. (1-2).

Same as courses 103, 104.

53, 54. (1-2).

Same as courses 203, 204.

Cavalry.

17, 18. (1-2).

Same as courses 107, 108.

57, 58. (1-2).

Same as courses 207, 208.

DEPARTMENT OF MODERN LANGUAGES

PROFESSOR CAMPBELL, ASSISTANT PROFESSOR WOODFORD.

In beginning courses a thorough drill in pronunciation, the essentials of grammar, and colloquial exercises is given through daily oral and written exercises. The reading of simple texts is taken up as early as possible.

The work of the advanced courses consists in the reading of selected texts and magazines, with incidental grammar review and drill in the use of colloquial idioms. Short dictation exercises are frequently given. Special stress is laid upon sight reading. Parallel reading of from 150 to 300 pages of selected prose works is required. In French and German, the reading is gradually adapted to the scientific work of other departments; the texts read in Spanish are literary and commercial.

The work in modern language is elective in all four-year courses, as shown under the several curricula, except in course IX, group 1.

311, 312. (3-0).

Grammar and easy reading.

(Required in IX, group 1).

313, 314. *German*. (3-0).

Grammar and easy reading.

315, 316. *Spanish*. (3-0).

Grammar and easy reading.

421, 422. *French*. (3-0).

Reading of scientific and other texts. Parallel reading.

(Required in IX, group 1).

423, 424. German. (3-0).

Reading of scientific and other texts. Parallel reading.

425, 426. Spanish. (3-0).

Reading of selected texts; composition; conversation. Parallel reading.

426b. Spanish. (3-0).

Commercial Spanish; reading of commercial and technical texts and periodicals; social and commercial correspondence.

Prerequisite: Course 425 or equivalent.

NOTE.—Courses 211, 212, 213, 214, 215, 216, elective in course X, are the same as 311, 312, 313, 314, 315, 316, respectively.

DEPARTMENT OF PHYSICS

PROFESSOR SILVEY, ASSISTANT PROFESSORS VEZEY, LACKEY, SANDERS, RAY, MR. FOSTER, MR. UDINSKI.

103, 104. College Physics. (3-2).

A general course in physics for students in general science courses and those preparing to enter a medical school.

This course includes the mechanics of solids, liquids and gases; and the phenomena of heat, light, sound, electricity and magnetism. Instruction is given by recitations, quizzes, problems and demonstrated lectures. Emphasis is laid upon the fundamental principles rather than the mathematical processes involved.

The practice includes about thirty experiments in the subjects named above.

Laboratory fee, 50 cents each term.

Text: Anderson's Physics, or equivalent.

(Required in X).

111, 112. Agricultural Physics. (2-2).

This course includes the phenomena of mechanics, heat, magnetism, current electricity and light that have application in the study of agriculture and agricultural engineering. Instruction is given by recitation, quizzes, problems and demonstrated lectures.

The practice includes measurements involving the laws of concurrent forces, moments, simple machines, specific gravity, calorimetry, current electricity, and the use of lenses in the common optical instruments.

Laboratory fee, 50 cents each term.

(Required in XI).

201, 202. General Physics. (3-3).

A course of selected topics in mechanics, properties of matter, sound, light, electricity and magnetism for students of general science who elect physics as a major. The work is essentially descriptive, but the simpler mathematical applications involving algebra, trigonometry and geometry are studied.

Laboratory fee, \$2.00 each term.

Prerequisite: Physics 103, 104, and Mathematics 101, 106.
(Elective in X).

203, 204. General. (3-3).

A general course in mechanics, heat, light, electricity and magnetism for engineering students.

In this course particular stress is laid on the derivation of the various formulas necessary for a thorough understanding of the mathematical relations existing in physical determinations. Much emphasis is placed on practical problems furnished by the instructors.

The practice includes about thirty experiments in the subjects named above. The work is, in general, quantitative.

Laboratory fee, \$1.00 each term.

Text: General Physics, Ferry.

Prerequisite: Mathematics 101, 103.

(Required in all engineering courses except V).

207, 208. General. (3-2).

This course is identical with course 203, 204, with the omission of electricity and magnetism.

Laboratory fee, \$1.00 each term.

Prerequisite: Mathematics 101, 103.

(Required in V).

301, 302. Heat and Properties of Matter. (3-3).

A course for students in undergraduate study or for graduate students of other departments who may take this course as partial fulfillment of a minor in physics.

This course includes a discussion of universal gravitation, elasticity, surface tension, diffusion, viscosity, mechanics of fluids, laws of heat transfer, kinetic theory, critical points, isothermal and adiabatic changes and the thermodynamics of changes of state and radiation.

The work is more descriptive than mathematical, but ample opportunity is offered to study the application of the calculus to physics.

Laboratory fee, \$2.00 each term.

Texts: Properties of Matter; Heat, Poynting and Thompson, or equivalents.

Prerequisite: Physics 201, 202, 203, 204 or 207, 208, and Mathematics 203, 204.

(Elective in X).

305. Light. (2-0).

A course for students in undergraduate study or for graduate students of other departments who may take this course in partial fulfillment of the requirement of a minor in physics.

This course includes a discussion of the wave theory of light, optical instruments, dispersion, spectroscopy, aberrations, refraction, interference, diffraction, polarization, double refraction and theories of refraction and reflection.

The treatment is non-mathematical.

Text: Edser's *Light for Students*, or its equivalent.

Prerequisite: Physics 201, 202, 204 or 207.

(Elective).

307, 308. *Experimental Physics*. (0-4).

A laboratory practice course to supplement any of the courses in theoretical physics.

The experiments performed are illustrative of the theory being discussed in the theoretical course. It is intended that this course will develop laboratory technique preparatory to research work.

Manual: Watson's *Practical Physics*, or its equivalent.

This course must be preceded by, or taken in parallel with one of the courses in theoretical physics.

Laboratory fee, \$2.00 each term.

(Elective).

401, 402. *Optics; Electricity and Magnetism*. (3-3).

A course for physics students in undergraduate study or for graduate students of other departments who may take this course as a partial fulfillment of a minor in physics. This course includes a discussion of periodic motion, wave motion, the nature and propagation of light, interference, diffraction, theory of optical instruments, polarization, magnetism, magnetic induction and potential, current electricity, electrostatic induction and potential, electromotive forces, thermal effects, photo-electricity, electro-magnetic induction and electro-magnetic theory.

Laboratory fee, \$2.00 each term.

Texts: *Optics*, The Theory of Optics, Part I (Schuster), or equivalent; *Magnetism and Electricity* (Poynting and Thomson), or equivalent.

Prerequisite: Physics 201, 202 or 203, 204 and Mathematics 203, 204.

(Elective in X).

403, 404. *Kinetic Theory; Electron Theory*. (3-0).

This course includes a study of gas pressure, speeds of gaseous molecules, Boyle's law, determination of the gas constant, the law of Gay-Lussac, Graham's law, law of diffusion, the mean free path, viscosity, Maxwell's distribution law, the phenomenon of conductivity of electricity through gases, mobility and diffusion of gaseous ions, measurement of the elementary charge, ratio of charge to mass of ions, positive ions, photo-electric action, Brownian movements.

Prerequisite: Physics 301, 302 and Mathematics 203, 204.

(Elective in X).

FOR STUDENTS IN SHORT COURSES.

11, 12. *Elementary*. (2-2).

Lectures, recitations, problems, and demonstrations in elementary mechanics, heat, sound, light, electricity and magnetism. The nature of the theory is indicated by the outline of the practice.

The practice includes measurements of precision with vernier and micrometer calipers and balances; curve plotting; accurate determina-

tion of length, volumes, densities, forces, moments, stress, expansion, heat exchange, refraction and reflection of light by various forms of lenses and mirrors; velocity of sound and the laws of vibrating strings; measurements of voltage, current, and resistance.

Multiple sets of apparatus permit laboratory experiments to be run parallel to the lectures and recitations.

Laboratory fee, 50 cents each term.

Text: Practical Physics, Millikan and Gale.

(Required in H).

DEPARTMENT OF RURAL SOCIOLOGY.

PROFESSOR GARNETT, MR. OLIPHINT.

201. *Social Problems.* (3-0).

This course is an introduction, in an elementary way, to some of the outstanding social problems confronting present-day society. After showing the many aspects of society which affect the welfare of everyone, and indicating some of the consequences of social maladjustments, detailed consideration is given to such questions as growth and shifts of population, immigration, family problems, standards of living, poverty, crime, and social legislation.

Text: Society and Its Problems, Dow.

(Elective in I).

311. *Social Psychology.* (3-0).

The factors affecting group behavior together with methods of social control constitute the main theme of this course. The forces and influences which determine the mental attitudes of country people are analyzed. The connections between a good understanding of the social mind and successful organizational effort are shown and methods of dealing with the problems involved are developed. The many questions related to public opinion are given attention.

Text: Social Psychology and Social Control, Ross.

(Required in I, group 12).

312. *General Sociology.* (3-0).

This course analyzes the forces and processes determining the complexion of modern society; studies the principles basic to desirable social policies, and considers in detail some of the more outstanding present-day social problems.

Text: Outlines of Sociology, Ross.

(Required in I, group 12).

404. *Rural Organizations.* (2-2).

After analyzing the community interest needing organized effort—economic, civic, educational, social and religious—and determining the scale on which it is desirable to deal with each, a study is made of the historic development, activities, relationships, and plan of work of the various types of organizations found in different parts of the United States and Europe. The principles basic to successful organization are

then formulated. Methods of developing organization leaders and gaining community support are outlined. Especial attention is given to the organization problems of the county agent, the agricultural teacher and other community workers. Each student is expected to work out detailed plans for some type of organization in which he is interested.

Texts: The Farm Bureau Movement, Kyle; The Farmer and His Community, Sanderson.
(Elective).

407. *Rural Sociology.* (2-2).

This course first analyzes the conditions, forces and agencies influencing the life of the country dweller and the country community. A detailed study is then made of a number of special problems related to the social side of country life, such as: population questions; cityward drift; town and country relationships; rural health problems; recreation; rural leadership; community organizations, and community planning. Attention is also given to the social problems connected with the home; the school; the church; the press and other social institutions.

Text: Rural Sociology, Gillette.

Laboratory fee, 50 cents.

(Required in XIV).

408. *Rural Sociology.* (2-2).

Same as course 407.

Laboratory fee, 50 cents.

(Required in I, groups 11, 12, and XII).

409. *The Family.* (2-0).

After considering the importance of the family as a social institution and noting the outstanding problems of the rural home, the influences tending to undermine family life and constructive measures for overcoming these influences are studied. Problems of child welfare are emphasized.

Text: The family and its Problems, Spencer.

(Elective).

410. *Community Development and Community Planning.* (1-4).

In this course each student is expected to select some area in which he is interested (community, county or town) and make an analysis of all obtainable facts regarding the existing situation. Then, after familiarizing himself with the best examples of community development in the country, with the actual situation in mind, he is expected to work out a long time program for promoting the best community life in the area chosen. Practical, workable plans for putting his program into operation are required. Some field work may be called for.

Text: Community Organization, Hart.

(Required in I, group 12).

411. *Social Psychology.* (3-0).

Same as course 311.

(Required in X).

412. General Sociology. (3-0).

Same as course 312.
(Required in X).

415. Agricultural Journalism. (2-2).

The objectives of this course are to familiarize the student with the best principles of newspaper writing and especially the preparation of material for agricultural papers and country weeklies. The part a county paper should play in community development is stressed.

Text: Special Feature Articles, Bleyer.
(Required in I, group 12).

416. Agricultural Journalism. (1-4).

A continuation of course 415. In this course additional practice in the preparation of articles for agricultural and country papers is given. News campaigns for special objectives are planned. The business side of conducting a paper receives attention.

Text: To be selected.
(Elective).

FOR GRADUATES.

501, 502. Advanced Rural Sociology. (3-4). Major.

In this course each student selects some special rural social problem for intensive study. Methods of social investigation receive attention. Some field work may be required.

501a, 502a. Advanced Rural Sociology. (2-4). Minor.

A modification of course 501, 502.

503, 504. Country Life Tendencies. (3-4). Major.

In this course a critical study is made of some of the most important tendencies now apparent in country life.

503a, 504a. Country Life Tendencies. (2-4). Minor.

A modification of course 503, 504.

505, 506. Social Legislation. (3-4). Major.

The object of this course is to work out a program of social legislation designed to promote the best rural life in Texas. The course includes an analysis of the rural needs calling for legislative action; a review of the social legislation of other States, and of the principles on which such legislation is based; and some consideration of the relationships of the various agencies working on different angles of the rural situation.

505a, 506a. Social Legislation. (2-4). Minor.

A modification of course 505, 506.

DEPARTMENT OF TEXTILE ENGINEERING.

PROFESSOR BAGLEY, ASSOCIATE PROFESSORS DOWD, LICHTER.

101, 102. Cotton Classing. (0-2).

This course includes practice in grading and stapling cotton, the methods of handling the crop from the field to the mill, and other subjects of general interest to a cotton student are presented in lecture form.

Laboratory fee, 50 cents each term.

(Required in I, XII, C).

207. Weaving. (0-3).

Practice in operating plain looms.

(Required in VI).

206. Yarn Manufacture. (0-3).

Practice in operation of the machinery used in the manufacture of cotton yarns.

(Required in VI).

301, 302. Yarn Manufacture. (4-3, 3-2).

Recitations on the machinery and processes in the manufacture of coarse cotton yarns. Instruction is given with a view of imparting a general knowledge of the machinery and processes, including the study of the raw material; mixing; mixing machinery; construction and operation of feeder and picking machinery, carding, drawing, slubbing, roving, ring spinning, spooling, reeling, and twisting; calculations to determine the necessary gearing to produce given numbers, speeds and production.

Texts: Cotton Mill Processes and Calculations, Tomkins; International Library of Technology, Vol. 76.

(Required in VI).

303, 304. Fabric Designing. (0-3).

This course includes the classification of fabrics; the elementary principles of fabric structure; the explanation of various technical terms applied to designs and fabrics; the representation of drawing-in drafts and harness chains; the design of fancy shirting, madras, and dress goods, etc.

(Required in VI).

305, 306. Weaving. (3-3, 0-4).

Continuation of course 204, together with fixing dobbies and Jacquards and the taking to pieces and rebuilding of looms.

Text: International Library of Technology, Vol. 80.

Prerequisite: Textile Engineering 204.

(Required in VI).

401, 402. Yarn Manufacture. (0-2, 3-3).

Recitations and lectures; a continuation and more exhaustive treatment of the subjects of course 301, 302. In addition, the study of warp

preparation and of the machinery necessary for the manufacture of fine cotton yarns, including the sliver lap machine, ribbon lay machine and comber, and a study of the spinning mule, organizations for the manufacture of all classes of yarns and the preparation of fancy warps.

Text: International Library of Technology, Vol. 77.

Prerequisite: Textile Engineering 302.

(Required in VI).

404. *Fabric Analysis.* (1-0).

Dissection of small samples with a view of reproducing them.

Prerequisite: Textile Engineering 303.

(Required in VI).

405. *Sizing.* (3-0).

This course includes a thorough study of all materials used in sizing cotton yarns. The best methods of testing for adulterants commonly found in these materials are given, as are also the most modern methods of their application to the yarns. The machinery and its operation are carefully studied.

Text: Chemistry and Practice of Sizing, Bean.

(Required in VI).

407, 408. *Weaving.* (2-2, 0-4).

Recitations and lectures on the construction, operation and adjustment of leno and Jacquard machines. A study of the different "tieups" used in Jacquard weaving. Sketching the most important motions on automatic and dobby looms.

Prerequisite: Textile Engineering 305, 306.

(Required in VI).

410. *Mill Management.* (3-0).

Lectures and recitations on the general management of cotton mills, including the study of fire protection, cost of production in the various departments, labor conditions and wages, care of mill and mill village.

Texts: International Library of Technology, Vol. 78; The Cotton Manufacturing Industry of the United States, Copeland.

(Required in VI).

412. *Magazine Review.* (1-0).

Students will report in class on articles assigned them in the textile magazines.

(Required in VI).

413, 414. *Cotton Classing.* (1-2, 0-2).

Recitation and lecture on classification and stapling of cotton, buying spot cotton, papers used in the cotton trade and cotton exchanges. Laboratory fee, 50 cents.

Text: Cotton Trade Guide and Student's Manual, Miller.

(Required in VI).

415, 416. *Fabric Designing.* (0-3).

A continuation of course 304.

Prerequisite: Textile Engineering 304.

(Required in VI).

FOR STUDENTS IN SHORT COURSES.

11, 12. *Designing.* (0-3).

A modification of course 303, 304.

(Required in H).

13. *Yarn Manufacture.* (4-3).

A modification of course 201, 202.

(Required in H).

16. *Weaving.* (3-3).

A modification of course 207.

(Required in H).

51, 52. *Yarn Manufacture.* (3-2, 3-4).

A modification of course 401, 402.

(Required in H).

53, 54. *Designing.* (0-3).

A modification of course 415, 416.

(Required in H).

55, 56. *Weaving.* (3-2, 3-4).

A modification of course 407, 408.

(Required in H).

58. *Fabric Analysis.* (1-0).

Dissection of small samples with a view to the reproduction of fabric; Jacquard designing, cutting cards from original designs.

(Required in H).

61. *Cotton Classing.* (1-2).

Same as course 413.

Laboratory fee, 50 cents.

(Required in H).

DEPARTMENT OF VETERINARY ANATOMY.

PROFESSOR FRANCIS.

111. *Anatomy of the Domestic Animals.* (3-6).

This course embraces a careful study of the bones, joints and muscles.

Text: *Anatomy of Domestic Animals*, Sisson.

Laboratory fee, \$4.00.

(Required in XI).

112. *Anatomy of the Domestic Animals.* (3-6).

During this term the thoracic and abdominal viscera are studied.

Laboratory fee, \$4.00.

Text: *Anatomy of Domestic Animals*, Sisson.

(Required in XI).

211. *Anatomy of the Domestic Animals.* (3-6).

This course includes a dissection of the circulatory system, the nervous system and the organs of special sense.

Text: *Anatomy of the Domestic Animals*, Sisson.

Laboratory fee, \$4.00.

(Required in XI).

213. *Histology and Embryology.* (2-4).

A lecture and laboratory course.

Laboratory fee, \$4.00.

Texts: *Normal Histology*, Stohr; *Embryology of the Chick and Pig*, Prentiss.

(Required in XI).

302. *Anatomy and Physiology of Domestic Animals.* (2-2).

This course is intended as an introduction to the study of veterinary medicine. It treats the fundamental processes of animal nutrition in detail, so that each student may be prepared to meet the problems that arise in the economic production of beef, pork, and dairy products.

Reference books: *Physiology of Domestic Animals*, Smith; *Veterinary Anatomy*, Sisson.

Laboratory fee, \$1.50.

(Required in I, group 5).

312. *Topographical Anatomy.* (0-6).

Prerequisite: Courses 111, 112, 211.

Text: *Topographical Dissection Guide*, Stewart.

(Elective).

FOR GRADUATES.

511a, 512a. *Veterinary Anatomy.* (2-4). Minor.

FOR STUDENTS IN SHORT COURSES.

52. *Animal Diseases.* (3-2).

A popular course on the common diseases of animals on the farm.

Laboratory fee, \$1.50.

Text: *Principles of Veterinary Science*, Hadley.

(Elective in C).

DEPARTMENT OF VETERINARY MEDICINE AND SURGERY.

PROFESSOR MARSTELLER, ASSOCIATE PROFESSOR LENERT.

306. *Animal Diseases.* (3-2).

This course is designed to give the student a working knowledge of the structure, growth and diseases of domestic animals. The anatomy

and physiology of animals will be reviewed, then the remainder of the term devoted to diseases. It will be especially useful to teachers of rural schools.

Text: Principles of Veterinary Science, Hadley.
(Required in XII).

351. *Non-infectious Diseases.* (3-0).

This course consists of lectures and demonstrations on physical diagnosis.

(Required in XI).

352. *Non-infectious Diseases.* (3-0).

In this course instruction is given on diseases of the digestive, circulatory, respiratory and urinary organs.

(Required in XI).

361. *General Surgery.* (3-0).

In this course instruction is given in the principles of surgery, restraint of domestic animals, surgical diagnosis, surgical exercises and soundness.

(Required in XI).

362. *General Surgery.* (3-0).

This course is a continuation of course 361.

(Required in XI).

371. *Clinics.* (0-7).

372. *Clinics.* (0-12).

471. *Clinics.* (0-7).

472. *Clinics.* (0-7).

Hospital service is required of all students. They must give daily attention to cases assigned. In addition to hospital duty, laboratory diagnosis and post-mortem examination are required whenever necessary. An ambulatory clinic is maintained. Students will, as occasion may require, make trips to other parts of the State to observe and study outbreaks of diseases. Cases in clinic are treated under hospital conditions. When necessary they are held for observation and study; thus the student is given an opportunity to see the entire course of these diseases and the results of treatment. About fifteen hundred cases of non-infectious diseases, infectious diseases, and surgical diseases of animals and fowls are treated in clinic each year.

(Required in XI).

403. *Animal Diseases.* (3-2).

A discussion of common infectious and non-infectious diseases of domestic animals.

Text: Veterinary Medicine, Vols. 1, 2, 3, 4, 5, Law.

Prerequisite: Veterinary Anatomy 304.

(Required in I, group 5).

451. *Diseases of Small Animals and Fowls.* (3-0).

In this course special attention is given to non-infectious and infectious diseases in pet animals and domestic fowls.

(Required in XI).

452. *Practice of Veterinary Medicine and Jurisprudence.* (3-0).

The aim of this course is to acquaint the student with general business methods and State and national laws relating to the practice of veterinary medicine.

(Required in XI).

453. *Infectious Diseases.* (3-0).

This course involves the study of the symptoms, treatment and control of infectious diseases.

(Required in XI).

461. *Obstetrics.* (2-0).

This course treats of accidents of breeding, diseases incidental to pregnancy, parturition and post-partum conditions. Attention is also given to diseases of the newly born.

(Required in XI).

462. *Operative Surgery.* (3-4).

In this course instruction is given in castrating, spaying, dentistry, lameness, shoeing. Surgical exercises are required.

Laboratory fee, \$5.00.

(Required in XI).

464. *Diseases of the Reproductive Organs.* (2-2).

This course deals largely with the causes and treatment of sterility of domestic animals. Some time will be given to infectious diseases of the reproductive organs.

Prerequisite: Course 461.

Text: *Diseases of the Genital Organs of Domestic Animals*, Williams.

(Elective in XI).

FOR GRADUATES.

501a, 502a. *Special Surgery.* (2-4). *Minor.*

This course will deal with problems of surgical conditions, surgical pathology, surgical technique and sterility of animals.

Laboratory fee, \$10 each term.

DEPARTMENT OF VETERINARY PATHOLOGY.

ASSOCIATE PROFESSOR PRICE.

242. *General Pathology.* (3-2).

This course deals with the elementary disease processes and their causes, including a study of the gross and minute appearance of the diseased tissues. Such processes as inflammation, necrosis, gangrene,

atrophy, hypertrophy, ulceration; the various degenerations, infiltrations, pigmentations and tumor formations are considered.

Practice work consists of the microscopical study of these processes and instruction in laboratory technique.

References: General Pathology, Ziegler; Text-book of Comparative General Pathology, Kitt; Text-book of Pathology, Delafield and Prudden; Pathological Technique, Mallory and Wright.

Laboratory fee, \$1.50.

Prerequisite: Veterinary Anatomy 202.

(Required in XI).

341, 342. *Special Pathology.* (2-0, 2-4).

A course of lectures on the special systematic pathology and morbid anatomy of the different organs and systems of organs. The pathology of the various infectious and contagious diseases is considered.

Practice work includes the demonstration of museum and fresh specimens, and an introduction to post-mortem technique.

References: Pathology and Therapeutics of the Diseases of Domestic Animals, Hutyra and Marek; Veterinary Post-mortem Technic, Crocker.

Laboratory fee, \$4.00, second term.

Prerequisite: Veterinary Pathology 242.

(Required in XI).

343. *Special Bacteriology.* (2-4).

This course deals with the pathogenic micro-organisms; their morphology, cultural characteristics and pathogenicity is considered.

Practice work consists of the study of the more important micro-organisms which produce disease in man and domestic animals.

References: Microbiology, Moore; Veterinary Bacteriology, Buchanan; A Text-book of Bacteriology, Hiss and Zinsser.

Laboratory fee, \$4.00.

Prerequisite: Biology 209, or its equivalent.

(Required in XI).

441. *Immunology and Serum Therapy.* (2-2).

The fundamental principles of immunity are considered. Special attention is given to the preparation of biologics used in the prevention of infectious diseases.

Laboratory fee, \$4.00.

Prerequisite: Veterinary Pathology 343.

(Required in XI).

442. *Meat Hygiene.* (2-2).

This course deals with the abattoir inspection of meats and meat products; the Federal regulations governing such inspection, condemnation and disposal of carcasses, also the regulations governing interstate and foreign shipments of live stock.

Text: Meat Hygiene, Edelmann, Mohler and Eichorn.

Prerequisite: Veterinary Pathology 341, 342.

(Required in XI).

443. Parasitology. (2-2).

This course deals with the parasites infesting the domestic animals, and the pathological conditions produced by them. Attention is given to the treatment and control measures.

Laboratory fee, \$1.50.

Prerequisite: Biology 201, 202, or equivalent.

(Required in XI).

444. Laboratory Diagnosis. (2-2).

The methods of procedure in the preparation of materials for laboratory examination are given, and the technique of examination explained. Those biological tests which are of especial importance are considered.

Laboratory fee, \$2.00.

Prerequisite: Veterinary Pathology 341, 342, 343.

(Required in XI).

FOR GRADUATES.

541, 542. Advanced Special Pathology. (3-4). Major.

Etiology, pathogenesis, lesions and results of disease of organs and systems of organs; also pathology of the infectious diseases.

Prerequisite: Veterinary Pathology 242, or equivalent.

Laboratory fee, \$5.00 each term.

541a, 542a. Advanced Special Pathology. (2-4). Minor.

A modification of course 541, 542.

Laboratory fee, \$5.00 each term.

543, 544. Advanced Special Bacteriology. (3-4). Major.

A study of the pathogenic micro-organisms; their cultural and biological characteristics and pathogenicity.

Prerequisite: Biology 209, or equivalent.

Laboratory fee, \$5.00 each term.

543a, 544a. Advanced Special Bacteriology. (2-4). Minor.

A modification of course 543, 544.

Laboratory fee, \$5.00 each term.

**DEPARTMENT OF VETERINARY PHYSIOLOGY AND
PHARMACOLOGY.**

ASSOCIATE PROFESSOR BLACKBERG.

121. Physiology of the Domestic Animals. (2-0).

Lectures on the physical and chemical processes involved in the physiological functioning of the bodies of the domestic animals.

(Required in XI).

122. Physiology of the Domestic Animals. (2-0).

Lectures on the physiology of the circulatory, respiratory, muscular and locomotor systems.

Prerequisite: Course 121.

(Required in XI).

221. *Physiology of the Domestic Animals.* (2-0).

Lectures on the nervous system, including special senses, digestion, absorption, secretion and excretion.

Prerequisite: Course 122.

(Required in XI).

222. *Physiology of the Domestic Animals.* (3-4).

Lectures on physiological chemistry, with special reference to digestive juices, enzymes, ferments, hormones, internal secretions, milk, urine, and chemical composition of the body.

The laboratory practice consists of studying blood, milk, urine, and other body fluids, including the action of natural and artificial digestive juices (enzymes) on the various foodstuffs. The students also make graphic records of the physiological functioning of the muscular, nervous, respiratory, and circulatory systems.

Laboratory fee, \$2.50.

Prerequisite: Course 221.

(Required in XI).

333. *Pharmacology.* (3-4).

This course covers the general preliminary work in pharmacology. By a series of lectures and recitations a detailed study is made of metrology of the history of therapeutics, the source and composition of drugs, the methods of administration, the various factors influencing the actions of drugs upon the individual, and the active constituents of medicinal plants and posology. The drugs affecting the circulatory and nervous systems, including antipyretics, are then studied in a systematic manner.

The practice consists of laboratory work in examining and identifying crude drugs, making tests for their purity, extracting their active constituents, making chemical tests for each. Pharmaceutical methods used in the manufacture of medicinal preparations are carefully studied and each student is required to make a definite number of all types of official preparations, described in the Pharmacopoeia and in addition a number of non-official preparations. Prescription filling, preparing, compounding and dispensing pharmaceutic preparations are all given ample consideration. The student is given an opportunity to observe the actions of drugs on experimental animals. The chemical and biological methods of standardization of medicinal preparations are taken up in detail.

Text: Veterinary Pharmacology and Therapeutics, Milks; Veterinarian's Handbook, Udall.

Laboratory fee, \$3.00.

(Required in XI).

334. *Pharmacology.* (3-0).

This course, which consists of a series of lectures and recitations, is a continuation of course 331 and takes up all the drugs which were not studied at that time.

Prerequisite: Course 333.

(Required in XI).

432. Toxicology. (1-2).

The theory of this course consists of a series of lectures, discussing the causes, symptoms, lesions, prevention and treatment of organic and inorganic poisons, including poisonous plants and endogenous poisons.

In the practice, each student is required to make microscopical, chemical and biological analyses of the more common organic and inorganic poisons and poisonous plants. The students also observe the symptoms, lesions and methods of treatment of cases, produced by the more common poisons upon experimental animals.

Laboratory fee, \$2.50.

Text: Veterinary Toxicology, Lander; Medical Chemistry and Toxicology, Holland.

(Required in XI).

FOR GRADUATES.

501, 502. Advanced Practical Physiology. (3-4). Major.

This course affords opportunity for observations of the more intricate and recent phases of physiology. It is arranged for advanced students or teachers of physiology who wish to make a thorough study of modern experimental methods. The work will be arranged to suit the needs of the student and in harmony with his previous training. A thesis, based on original investigation is required as part of this course.

501a, 502a. Advanced Physiology of Nutrition. (2-4). Minor.

This course deals with a detailed study of the modern theories of nutrition with special reference to vitamins.

505a, 506a. Advanced Poisonous Plants. (2-4). Minor.

This course deals with original investigations and detailed studies of the poisonous plants affecting domestic animals.

507, 509. Advanced Experimental Pharmacology. (3-4). Major.

This course affords opportunity for studying the modern methods of research in pharmacology and pharmaceutical processes. It comprises original research in studying the actions and uses of drugs. A thesis based on original investigation is required as part of this course.

DEPARTMENT OF VOCATIONAL TEACHING.

PROFESSOR HAYES, PROFESSORS KRAFT, MARTEN, ASSOCIATE PROFESSORS
BROWN, ALEXANDER, DICKEY.

 AGRICULTURAL EDUCATION.
202. Psychology. (3-0).

This is a beginning course in psychology adapted especially to the needs of business men and administrators. A study is made of the fundamentals of instinct, attention, habit formation, memory, etc., and the application of these principles to life, to advertising, and to the management of employees.

(Elective).

205. Vocational Education. (3-0).

It is the purpose of this course to give a clear understanding of the field of vocational education, to insure sympathy and enthusiasm for the introduction of vocational training in the public schools, to set up proper objectives and to indicate standards in methods, content, and in qualifications of teachers for agricultural, industrial, commercial, and home-making education.

(Required in XIII).

208. Educational Psychology. (3-0).

This is a beginning course in psychology with special emphasis on its application to the problems of teaching. Among the topics considered are the following: Instincts, individual differences, mental tests and measurements, habit formation, association, retention, attention and motivation, characteristics of adolescents and relation to methods of teaching and control.

(Elective in I).

305. Vocational Education. (3-0).

Same as course 205.

(Required in I, group 2, XII).

308. Educational Psychology. (3-0).

Same as course 208.

(Required in I, group 2).

401. Principles of Teaching. (3-0).

The fundamental principles of the aims and methods of the recitation are studied with their application to the conditions of the high school and especially the class in vocational agriculture. The project method of teaching and the socialized recitation are emphasized. Observation in assigned classes and supervised teaching in vocational agriculture are required as part of the course.

Prerequisite: Vocational Teaching 208.

(Required in I, group 2; XII).

403. Rural Education. (3-0).

The primary purpose of this course is to make a study of rural education in its broad sense, with a view of preparing teachers and extension workers for more efficient service in rural communities. Some of the topics discussed are: Changes in rural education and the rural home, together with the factors affecting such changes; the school as a community center; other agencies to be co-ordinated; community play and recreation; and the redirected rural school.

(Elective).

415. Educational Tests and Measurements. (3-0).

The teacher of agriculture is constantly being used in the smaller school systems in the State as principal or superintendent. It is necessary, therefore, that the special teacher of agriculture have the oppor-

tunity of becoming acquainted with modern methods of measuring the results of teaching.

The purpose of this course is to give the teacher, the principal, and the superintendent a working knowledge of educational tests. A study is made of the various tests and measurements employed in measuring school-room instruction.

(Elective).

418. *Visual Instruction.* (1-4).

The purpose of this course is to study the theory and practice of visual instruction and to acquire skill in the preparation and use of material for visual instruction. The course includes the designing and making of charts, use of the camera making negatives and lantern slides, coloring lantern slides, use of stencils, mimeoscope and projection lantern, operation and care of motion picture machine, graphic representation of data and the use of the cartoon. Instruction is given in preparation and display of material for fairs and exhibits.

(Elective).

419, 420. *Agricultural Education Seminar.* (1-0).

An informal conference is held once a week. The staff of the department and other teachers of the College interested in the current agricultural education problems assist in the discussion. Students enrolling for credit select special subjects for study and report progress from time to time.

(Elective).

INDUSTRIAL EDUCATION.

210. *Job Analysis.* (2-0).

In this course emphasis is placed upon the job analysis and its importance as the foundation for all lesson planning. An analysis of some of the more important industries in which the members of the class are interested, such as woodworking, metal working, printing, electrical construction and operation, automobile construction and repair, is made. Important type jobs, as represented by the evening trade extension part-time and industrial courses, are analyzed as to their operations, trade knowledge, and teaching points, members of the class choosing the type jobs for analysis in which they are most interested.

(Required in XIII).

310. *Educational and Vocational Guidance.* (3-0).

This course includes a survey of the recent development of educational and vocational guidance within and outside of the schools, information on the common occupations and their requirements, an analysis of personal characteristics; try-out methods; value of opportunity and co-operative part-time classes; value of cumulative school records; methods of keeping records; opportunities for educational and vocational guidance; vocational guidance through literature; need for follow-up work in vocational counselling; a study of psychological, industrial and commercial tests.

(Elective).

318. Lesson Planning and Methods of Teaching Industrial Arts. (2-2).

This course deals with the effective planning of a lesson in relation to its aim. It includes the planning of definite courses and the arrangement of these courses in effective instructional order, members of the class choosing special industrial education courses in which they are most interested. Emphasis is placed on the details in planning a definite lesson, taking into consideration the varying technical development of the students in the class. Methods of teaching and their value under different teaching conditions are discussed.

(Required in XIII).

323. Psychology Applied to Industry. (3-0).

This course is a direct application of the fundamental principles of psychology to industry. It includes the relation of the worker's nervous system to his mind, cultivating right habits in workers; instincts, imitation, memory and imagination; interest factors and power of suggestion as aids in increasing the quantity and the quality of production: "Association of ideas" as an aid in giving orders; development of initiative, reasoning and judgment in workers; psychological aids in selecting and training workers; psychology as an aid in reducing turnover; value of intelligence tests.

(Required in XIII).

402. Administration of Vocational Agriculture. (3-0).

This course is a study of the specific problems that confront the teacher in carrying on the work of the department of vocational agriculture in the high school. The analysis of the job of the farmer in a given community; the arrangement of the farm activities into seasonal sequence; the making of the teacher's annual plan; the selection, supervision and operation of home projects; the selection and management of library, shop and laboratory equipment; the organizing and conducting of part-time or evening short unit courses; the conducting of pre-vocational agriculture classes; and the relation of the teacher of vocational agriculture to his school and community, are some of the most important phases of the course. Students get practice in observation and supervised teaching in connection with this course.

(Required in I, group 2; XII).

404. Agricultural Extension and Demonstration. (3-0).

This course is intended to give a survey of the whole field of extension in agriculture and home economics, and to give practice that will prepare for actual field work. Among the topics discussed are: Evolution of extension in agriculture and home economics; general organization for extension; methods of extension, farm demonstration work; junior agricultural clubs; extension by experts; extension by railroads and commercial companies; and the training of extension workers. Courses 301, 302 and 403 are important to give preparation for this course, but they are not prerequisite. Lectures, assigned readings, and problems constitute the work of this course.

(Elective).

409. Supervised Teaching. (3-0).

The purpose of this course is to give opportunity for students to get actual experience in teaching secondary agriculture under supervision. Lesson plans are submitted by the student and approved by critic teaching in advance of the lesson. The teaching methods and results of the student are discussed in special conferences. Teaching will be done in classes in vocational agriculture on the campus or at nearby high schools. Observation and study are required in addition to the supervised teaching. Continuous teaching will be required. Students are urged to select their courses so that the hours 2 to 4 p. m. will be left open as many days as possible so that the teaching will not interfere too much with work in the other courses.

Prerequisite: Course 401.

(Required in XII).

410. Supervised Teaching. (3-0).

This course may be considered the same as 409, or as a continuation of 409.

Prerequisite: Course 401.

(Elective).

416. Administration and Supervision of Industrial Education. (3-0).

This course is planned for directors and co-ordinators of trade and industry classes. Emphasis is placed upon the definite problems that confront directors of these classes and the solution of these problems. The course includes the place of industrial education in the junior high school as an aid toward educational guidance into the vocations and avocations of life; organization of courses of study for junior high schools, senior high schools, technical schools, trade schools and corporation schools; a study of Smith-Hughes requirements, planning short unit courses for part-time and evening trade extension classes; organization and management of Smith-Hughes classes; holding the members; making out records and reports; securing material as teaching aids.

(Required in XIII).

417. Lesson Planning and Methods of Teaching Industrial Arts. (2-2).

Same as course 318.

421. Class Room Organization and Management. (1-4).

The vital relationship of efficient organization and management to the work of the class room is emphasized. Some of the topics discussed are the industrial education instructor's relation to the school system and community; most effective organization of the equipment and economic way of securing materials as teaching aids; planning of daily programs; lesson planning; discipline and individual adjustment; grading, records and reports; opportunities for educational guidance and aids; opportunities for improvement and advancement in service.

(Required in XIII).

423. Psychology Applied to Industry. (3-0).

Same as course 323.

(Elective in all engineering courses).

424, 425. *Training and Supervising Workers in Industrial Plants.* (3-0).

This course is planned for high grade engineering students in their junior and senior years who wish to increase their future opportunities for promotion as executives in the many fields of engineering activities. This course includes a brief summary of the development of training in industry, including corporation schools, vestibule schools, foreman conferences, job analysis, instruction on the job, and effective handling of employes.

(Elective in XIII; and in all engineering courses).

426. *Psychology Applied to Industry.* (3-0).

Same as course 323.

(Elective in all engineering courses).

FOR GRADUATES.

501, 502. *Agricultural Instruction.* (4-0). *Major.*

This course involves more extensive study of the problems raised in courses 401 and 402. In addition to this study of the work of the teacher of vocational agriculture, each student selects an individual problem for intensive study as a basis for his thesis. As one of the requirements of this course the student attends and takes part in courses 419, 420. Courses 401 and 402 must precede or accompany this study.

501a, 502a. *Agricultural Instruction.* (3-0). *Minor.*

A modification of course 501, 502.

503, 504. *Agricultural Extension and Demonstration.* (4-0). *Major.*

This course involves more extensive study of the problems raised in course 404. In addition to this study of the entire field of Farmers' Co-operative Extension Work in Agriculture and Home Economics each student selects an individual problem for intensive study as a basis for this thesis. As one of the requirements of this course the student attends and takes part in courses 419, 420. Course 404 must precede or accompany this study.

503a, 504a. *Agricultural Extension and Demonstration.* (3-0). *Minor.*

A modification of course 503, 504.

505, 506. *Organization and Management of Teacher-Training Departments.* (4-0). *Major.*

This course involves a more extensive study of the problems raised in courses 401 and 402, with special emphasis on the duties of the teacher of vocational agriculture as a basis for determining what the teacher-training department must do and how it must be accomplished. Each student selects an individual problem for intensive study as a basis for his thesis. Courses 401 and 402 must precede or accompany this study. As one of the requirements of this course the student attends and takes part in courses 419, 420.

505a, 506a. *Organization and Management of Teacher Training Departments.* (3-0). *Minor.*

A modification of course 505, 506.

PART V

RESEARCH, EXTENSION, SUMMER SESSION, AND OTHER
ACTIVITIES.

THE AGRICULTURAL EXPERIMENT STATION.

B. YOUNGBLOOD, DIRECTOR.

The Texas Agricultural Experiment Station is one of the four co-ordinate divisions of the Agricultural and Mechanical College of Texas. Its function is the investigation of agricultural problems. It consists of a central station at College Station, and thirteen substations, located in various sections of the State, as follows:

Angleton, Beeville, Beaumont, Chillicothe, Denton, Lubbock, Nacogdoches, Pecos, Spur, Temple, Troup, Sonora, College Station.

These substations are used for extending the work of the Main Station, so that Statewide information may be secured upon the various phases of Station work. The Station at the present time is supported by \$30,000 Federal and \$180,970.40 State funds, for the year.

The work of the Station comprises the investigation of the more important problems of veterinary science, chemistry, horticulture, animal industry, entomology, agronomy, plant pathology and physiology, forestry, plant breeding, rural economics, and the Feed Control Service. The Station is a source of valuable information for students of agriculture and the farmers and stockmen of the State. It is looked to for facts by the School of Agriculture, the Extension Service, and other agencies for the dissemination of agricultural information.

The work of the Main Station, and of the feeding and breeding substation (Substation No. 10) presents to students very unusual opportunities both in theoretical instruction and practical experience.

A brief statement of the work of the Station, by divisions and substations, is as follows:

MAIN STATION.

VETERINARY SCIENCE.

The Division of Veterinary Science conducts researches covering the diseases of farm animals of various kinds. Special attention is being given to diseases affecting horses and mules, cattle, sheep, goats and swine.

CHEMISTRY.

The Division of Chemistry conducts researches relating to feedstuffs, soils, fertilizers, irrigation waters, minerals, paints, and miscellaneous analysis; analysis of feeding stuffs for the Feed Control Service; and the enforcement of the State law regulating the sale of commercial fertilizers. The Chief of the Division of Chemistry is also State Chemist.

HORTICULTURE.

The Division of Horticulture conducts researches relating to fruits, vegetables, and ornamental trees and shrubs, and the introduction and propagation of new and promising varieties of fruits, vegetables and shrubs from foreign countries.

ANIMAL INDUSTRY.

Under the Division of Animal Industry researches are conducted with reference to the feeding, breeding, and management of various types of farm animals, including cattle, horses, sheep, goats, swine, and poultry. Substations 7, 10, and 14 are used somewhat extensively for various lines of research into problems relating to the animal industry of the State.

ENTOMOLOGY.

The Division of Entomology conducts researches relating to the various insect pests affecting the crops of the State, including life-history and methods of control of the various species, as well as researches relating to the beekeeping industry of the State. The chief of this division is also State Entomologist, and as such has immediate charge of the enforcement of the law regulating foul brood in bees.

AGRONOMY.

The Division of Agronomy conducts researches relating to the various farm crops adapted to the State, and pays special attention to the introduction and propagation of new and promising crops from foreign countries. Attention is also paid to soil fertility, and researches are conducted as to methods of application of fertilizers and green manures for soil improvement.

PLANT PATHOLOGY AND PHYSIOLOGY.

The Division of Plant Pathology and Physiology conducts researches relating to the diseases affecting plants of the State, with a view to developing methods of combating them. Both field crops and vegetable diseases are studied, as well as diseases of trees, ornamentals, and shrubs of various kinds.

COTTON BREEDING.

The Division of Cotton Breeding conducts researches that relate to the breeding of cotton plants, and their improvement, special attention being paid to inheritance, and determination of the Mendelian unit characters.

FARM AND RANCH ECONOMICS.

Formerly it was the custom for experiment stations to take up specific problems affecting farm practices for solution by specialists. At the present time there is quite a general change in viewpoint which causes the experiment station to look upon all farm problems as being a part of or having a bearing upon the more general problems of rural economics and sociology. In accordance with a nation-wide movement, there has been created in the Texas Station a Division of Farm and Ranch Economics, for the purpose of studying the economic problems affecting the agriculture of the State. In the future, therefore, the work of the specialists will be so arranged as to solve specific problems and at the same time throw light upon the more general economic problems.

SOIL SURVEY.

The Division of Soil Survey is operated in cooperation with the Bureau of Soils of the United States Department of Agriculture, and its work is the detailed and reconnaissance soil survey of the State, by counties and areas. Soil surveying is merely the recording of the soil resources by types, or an inventory of the soil. The value of a soil survey is generally recognized by all classes of people as an aid to agricultural advancement.

FEED CONTROL SERVICE.

The State law regulating the sale of concentrated commercial feeding stuffs and the materials from which they are manufactured, provides for defining them, for prohibiting their adulteration; for correct weighing and marking, and for collecting of samples; it also provides for the expense of enforcing the law, and for fixing penalties, and places the enforcement of the act in the hands of the Director of the Texas Agricultural Experiment Station. The Director is empowered to adopt names, standards and definitions; to refuse registration of any feeding stuff under a name which would be misleading as to the materials of which it is made up, or which does not conform to the standards, and after ten days' notice to cancel such registration as may be found in violation of the law or contrary to the names, standards and definitions in effect.

The purpose of the Feed Control Service is to afford protection alike to buyers and sellers of feeding stuffs. Annual bulletins are issued, giving the names, standards and definitions; lists of firms registered for the purpose of selling feeds in Texas, and the feeds offered by them, as well as the chemical composition of these feeds, as determined by the chemist for the Feed Control Service.

The Feed Control Service investigates problems encountered in the enforcement of the law, with reference to the feeding values of various feeds and combinations of feeds. The results of these investigations are given to the people of the State through bulletins and circulars, issued from time to time.

SUBSTATIONS.

The thirteen substations, owned and operated by the State as a part of the Station, are, as their name implies, subordinate to and a part of the Main Station. In the location of these substations due regard has been given to the need of outlying work within the several agricultural regions.

PUBLICATIONS.

The reports, bulletins and circulars of the Station are distributed to the farmers and stockmen of Texas, and others interested, free for the asking. Care is taken, however, to see that economical distribution is made. All requests for publications should be addressed to:

THE DIRECTOR, TEXAS AGRICULTURAL EXPERIMENT STATION, A. AND M.
COLLEGE OF TEXAS, COLLEGE STATION, TEXAS.

THE ENGINEERING EXPERIMENT STATION.

E. J. FERMIER, DIRECTOR.

The Texas Engineering Experiment Station is composed of all the engineering departments of the College, and was organized in 1914 for the purpose of affording a service to the industries of Texas similar to that afforded to the agricultural interests by the Agricultural Experiment Station; of assisting the urban population of the State in solving the technical problems of urban life; of investigating engineering and industrial problems of especial importance to Texas, and of disseminating information along these lines.

The Texas Engineering Experiment Station staff consists of the entire teaching force of the following departments of the College:

Agricultural Engineering.

Architecture.

Chemical Engineering.

Civil Engineering.

Economics.

Electrical Engineering.

Mechanical Engineering.

Physics.

Textile Engineering.

Bulletins have been issued as follows:

- No. 1. Earth Roads.
- No. 2. Relation and Value of Chemistry to Industry.
- No. 3. The Comparative Value of Fuels.
- No. 4. Highway Bridges and Culverts.
- No. 5. Highway Engineering at the A. and M. College. (Superseded by No. 14).
- No. 6. Household Conveniences. (Out of print.)
- No. 7. Gravel Roads.
- No. 8. Electricity in the Country Home.
- No. 9. Cotton Classing and Marketing.
- No. 10. Sewage Disposal for Country Homes.
- No. 11. Purchasing by Specification.
- No. 12. Demonstration Roads at the A. and M. College. (Out of print).
- No. 13. The Financial Side of Road Improvement.
- No. 14. Highway Engineering at the A. and M. College of Texas. (Out of print).
- No. 15. The Organization of a State Highway Department for the State of Texas. (Out of print).
- No. 16. Maintenance of Earth, Sand-Clay and Gravel Roads. (Out of print).
- No. 17. The Physical Testing of Non-bituminous Road Materials.
- No. 18. The Benefits of Good Roads.
- No. 19. Sand-Clay Roads.

- No. 20. The Value of Economic Geology.
- No. 21. The Administration of Highway Improvements. R. L. Morrison.
- No. 22. Bituminous Pavement Investigations in Certain Texas Cities, Part I, Bitulithic. Roy M. Green.
- No. 23. Principles of Pavement Selection, with Statistics of Pavements in Texas Cities and Towns. Prior to January 1, 1920. Roy M. Green and L. W. Kemp.
- No. 24. Bituminous Pavement Investigations in Certain Texas Cities, Part II, Asphaltic Concrete (Topeka and Modified Topeka), Sheet Asphalt, Uvalde Rock Asphalt, and Oklahoma Rock Asphalt. Roy M. Green.
- No. 25. Proceedings of a Regional Conference, February, 1922, on Highway Engineering and Highway Transport.
- No. 26. Preliminary Report of Power Producing Qualities of Certain Gasolines.
- No. 27. Cotton Mill Development in Texas.
- No. 28. Asphaltic Paving Mixtures, Their Material and Proportioning, with Details of Plant Inspection.

For copies of these bulletins, and for information regarding the work of the Texas Engineering Experiment Station, address E. J. Fermier, Director, College Station, Texas.

THE EXTENSION SERVICE.

T. O. WALTON, DIRECTOR.

Extension work in agriculture and home economics by the Agricultural and Mechanical College in co-operation with the United States Department of Agriculture was established under the terms of the Smith-Lever Act, the Texas Legislature formally accepting the terms of the Federal Act passed in May, 1914. The Board of Directors and the President of the College executed the first co-operative agreement under its terms with the States' Relations Service of the United States Department of Agriculture in 1914.

The general purpose is to carry information relating to agricultural and home economics from the College, the Experiment Stations and other authentic sources to farmers, farm women, farm boys and girls and by practical demonstrations teach them how to apply this information to the solution of their problems. In addition to the regular State and Federal Smith-Lever funds that are available for the conduct of the work, several co-operative projects are maintained by the United States Department of Agriculture under co-operative agreement between the College and department, these activities being correlated with and functioned through the Extension Service of the College. Besides the important undertakings of farm and home demonstration work through county agents, sustained jointly by the county, the College and the Department of Agriculture, the service disseminates information by demonstrations given by specialists in counties having no county agents and through bulletins and other printed material prepared and sent out from the institution. The demonstrations and the information sent out covers every phase of better farming and home making and promotes improvement in rural welfare. The funds available from the counties, the State and the Federal Department have been sufficient to enable the College to maintain county agents in practically all of the more important agricultural counties in the State. The condition under which work is placed in a county is, that the county commissioners court or other local organization pay from one-half to two-thirds of the salary of the agent; the remaining portion of the salary and expenses being borne by the College and department.

FARM DEMONSTRATION WORK.

The farm demonstration work is conducted by district and county agents, and consists of applying scientific principles to the solution of the problems of production and marketing farm and ranch products.

HOME DEMONSTRATION WORK.

The farm home is an essential part of the farm establishment, and the district and home demonstration agents are disseminating information to farm housewives through demonstrations, lectures, publications,

in home management, dairying, gardening, orcharding, poultry keeping and other phases of home improvement; thus enabling the farm women to keep fully informed with reference to modern methods in dealing with household problems.

SPECIALISTS.

In the growth and development of the work, trained specialists in certain phases of agricultural work have been found essential to the successful dissemination of information on improved agricultural practices. These men and women specialists keep in touch with the latest information obtainable regarding their particular specialty and assist the county and home demonstration agents in the solution of difficult problems in their work requiring the services of specially trained men and women along certain lines, and compile information, answer correspondence, and emergency calls.

RURAL ORGANIZATION.

The Extension Service, through its specialists, district and county agents, is encouraging rural organization in counties where agents are maintained, the purpose of these organizations being to stimulate co-operation among farmers in all matters of interest to farm families, and especially the co-operative handling of farm products through purchase and sale in such manner as to obtain the best returns.

BOYS' AND GIRLS' CLUBS.

The primary mission of an educational institution is to look after the rising generation, and while the Extension Service would in nowise neglect the adult farmer, yet it has realized the importance of properly training the youth of the State during the formative period; therefore, special effort has been made under trained leadership and by diligent instruction to give the boys and girls the proper understanding of agriculture and home economics and to prepare them for successful and happy life in the country. The particular projects maintained are boys' agricultural and live stock club work and girls' canning and poultry club work.

PUBLICATIONS.

Seasonal advice on farm problems is issued through bulletins, leaflets, circulars, correspondence, newspaper articles, and the Semi-Monthly Extension Service Farm News, as well as correspondence and mimeographed letters and circulars.

SUMMER SESSION.

GENERAL STATEMENT.

The Summer Session of the Agricultural and Mechanical College of Texas has been established for the following purposes:

1. To provide courses of instruction in all phases of agriculture and the allied sciences, and in automobiles and tractors, manual training, cotton classing, grain grading, veterinary medicine and surgery, rural sanitation, rural economics, and rural social science, for the benefit of teachers, rural ministers, county and local officers, farmers, farm boys, farm women, rural merchants, and others who may be interested in any phase of agricultural or rural development.

2. To offer to young men and women having sufficient preparation the opportunity of taking courses for college credit, and also to permit students of the College to remove deficiencies or pursue courses toward graduation.

3. To provide the opportunity for graduate work in a limited number of courses carrying credit toward the degree of Master of Science.

The work of the Summer Session is given in the following nine divisions:

The College (twelve weeks).

The School of Cotton Classing (six weeks).

The School of Grain Grading (six weeks).

The Eight Weeks' Course in Automobiles and Tractors.

The Farm Boys' Division (four weeks).

The Short Course for Country Ministers and County Editors (two weeks).

The Short Course for Graduate Veterinarians (one week).

The Farmers' Short Course (one week).

The Short Course for Electric Metermen (one week).

The Summer Session opens on the Monday following commencement day.

For bulletin giving full information of the Summer Session, address The Registrar, College Station, Texas.

FERTILIZER CONTROL SERVICE.

G. S. FRAPS, STATE CHEMIST.

The chemist of the Texas Experiment Station is designated by law as State Chemist, and has charge of the enforcement of the fertilizer law. Under his direction fertilizers are inspected, sampled for analysis, the samples analyzed, and the results published as bulletins of the Experiment Station. It is also the duty of the State Chemist to investigate the composition, properties, and agricultural values of fertilizers, and of fertilizer materials, and to conduct experiments relative to the value of fertilizers. Such investigations are being made, and the results published from time to time. The people of the State are furnished with information concerning fertilizers, by means of personal letters, bulletins, and otherwise. Co-operative fertilizer experiments are made with farmers, so that they can test the effects of various combinations of fertilizers on their own land.

Analyses are made of soils, irrigation and domestic waters, fertilizers, etc., when the analysis would be of public benefit along the lines of agricultural chemistry, and when the samples are taken in accordance with the requirements necessary to secure a suitable sample. Persons who desire to secure an analysis should request further information and instructions for sampling, as samples must be properly taken if the analysis is to have any value.

Analyses of feeding stuffs for the Feed Control Service, and chemical investigations of their composition and properties, are also made by the State Chemist.

OFFICE OF STATE ENTOMOLOGIST.

M. C. TANQUARY, STATE ENTOMOLOGIST.

By law the entomologist of the Texas Agricultural Experiment Station is ex-officio State Entomologist, and his headquarters are at College Station. The State Entomologist is charged with enforcing the laws of the State relative to diseases of honey bees. Under this law, it becomes the duty of every citizen to report the presence of any disease of honey bees to the State Entomologist. The law empowers the State Entomologist to issue such regulations as may be necessary to control diseases of bees. These regulations as they are now issued restrict the shipment of bees and appliances capable of transmitting diseases from one county to another without a certificate showing them to be free from disease. It is unlawful for common carriers to accept for shipment any bees or appliances except as provided for by the State Entomologist. All apiaries having American foul brood are under quarantine. The State Entomologist is required to publish such information as is necessary on the methods and directions for treating, eradicating and suppressing diseases of honey bees. It is unlawful for anyone to seek to prevent the inspection of bees, honey or appliances by the State Entomologist or his assistants. In addition to enforcing the law relative to the diseases of bees, the State Entomologist furnishes the citizens of the State with information concerning injurious insects and their control.

OFFICE OF STATE FORESTER.

E. O. SIECKE, STATE FORESTER.

The Office of State Forester was established by an act of the Thirty-fourth Legislature. In accordance with the law the State Forester has direction of all forest interests and all matters pertaining to forestry within the jurisdiction of the State. He is charged with the duty of enforcing all laws pertaining to the protection of forests and woodlands, preventing and extinguishing forest fires, collecting data relative to forest conditions, and cooperating with counties, towns, corporations and individuals in preparing plans for the protection, management and replacement of trees, wood lots and timber tracts. Under the forestry act the State is authorized to accept gifts of land to be used so as to demonstrate the practical utility of timber culture, water conservation and as refuges for game. The Board of Directors has the power to purchase lands in the name of the State, suitable chiefly for the protection of timber, as State forests, using for such purposes any special appropriations or any surplus money not otherwise appropriated which may be standing to the credit of the State forestry fund. All moneys received from the sale of wood, timber, minerals, or other products from the State forests and penalties for trespassing thereon shall be paid into the State Treasury and shall constitute a State forestry fund.

PART VI
REGISTER

REGISTER OF STUDENTS

GRADUATE STUDENTS

| | | |
|---|---------|-----------------|
| Cole, Ransom James | Agr. | Bryan |
| B. S., A. and M. College of Texas, 1916. | | |
| Conner, Arthur Benjamin | Agr. | College Station |
| B. S., A. and M. College of Texas, 1904. | | |
| Cox, Moses Eugene | CE | College Station |
| B. S., Clemson Agricultural College, 1916. | | |
| Crawford, Charles William | ME | Bryan |
| B. S., A. and M. College of Texas, 1919. | | |
| Dickey, George Leon | Ag. Ed. | College Station |
| B. S., A. and M. College of Texas, 1921. | | |
| Doremus, Harold Chellis | CE | College Station |
| B. S., University of Nebraska, 1921. | | |
| Geyer, Earl W. | Agr. | College Station |
| B. S., New Mexico State College of Agriculture and Mechanic Arts, 1914. | | |
| Hale, Fred | Agr. | College Station |
| B. S., A. and M. College of Texas, 1922. | | |
| Johnson, Albert Sidney | ChE | Dallas |
| B. S., A. and M. College of Texas, 1922. | | |
| Lasseter, William Ernest | Agr. | College Station |
| B. S., A. and M. College of Texas, 1922. | | |
| Leidigh, Arthur Henry | Agr. | College Station |
| B. S., Kansas State Agricultural College, 1902. | | |
| McNew, John Thomas Lamar | CE | College Station |
| B. S., A. and M. College of Texas, 1918. | | |
| Munson, Thurmond Armour | CE | College Station |
| B. S., A. and M. College of Texas, 1910. | | |
| Oliphint, Joseph B. | Agr. | College Station |
| B. S., A. and M. College of Texas, 1923. | | |
| Robinson, Frank Hill | Agr. | College Station |
| B. S., University of Tennessee, 1920. | | |
| Sherwood, Ross M. | Agr. | College Station |
| B. S., Iowa State College, 1910. | | |
| Skinner, Alonzo Ansley | Agr. | College Station |
| B. S., A. and M. College of Texas, 1921. | | |
| Smith, Harris Pearson | Agr. | College Station |
| B. S., Mississippi A. and M. College, 1917. | | |
| Smith, John B. | Agr. | College Station |
| B. S., Tufts College, 1916. | | |
| Warren, George Russell | Agr. | College Station |
| B. S., A. and M. College of Texas, 1918. | | |
| Williams, William Howard, Jr. | ChE | Houston |
| B. S., A. and M. College of Texas, 1922. | | |

UNDERGRADUATE STUDENTS

Abbreviations

| | |
|---|-------------------------------------|
| AA.—Agricultural Administration. | CE.—Civil Engineering. |
| AE.—Agricultural Education. | EE.—Electrical Engineering. |
| Ag. Eng.—Agricultural Engineering. | ME.—Mechanical Engineering. |
| Ag.—Agriculture. | TE.—Textile Engineering. |
| Ar.—Architecture. | VM.—Veterinary Medicine. |
| Ch. E.—Chemical Engineering. | IE.—Industrial Education. |
| | Sci.—Science. |
| C.—Two-year Course in Agriculture. | |
| H.—Two-year Course in Textile Engineering. | |
| M.—Two-year Course in Agricultural Engineering. | |
| N.—Two-year Course in Engineering. | |
| Sp.—Special Student. | '25—Sophomore. |
| '23—Senior. | '26—Freshman. |
| '24—Junior. | 1.—First Year of Two-year Courses. |
| | 2.—Second Year of Two-year Courses. |

| | | |
|---------------------------------|--------------|---------------------|
| Abbey, Garland Ellis | '25 Ag | Coleman |
| Abercrombie, Charles Milo | '25 ME | Houston |
| Ablowich, Dave, Jr. | '25 EE | Greenville |
| Abrams, Norman Hughes | '24 ME | Sherman |
| Adair, George Perrin | '25 EE | Boerne |
| Adam, David Andrew | '25 AA | Marlin |
| Adams, Frank Calvin | '26 EE | Timpson |
| Adams, Henry Clay | '23 ChE | Houston |
| Adams, Homer William | '26 Ag | Forney |
| Adams, Madison Hilliard | '23 CE | Forney |
| Adams, Sam Zelmer | '26 ME | Sour Lake |
| Adams, William Floyd | '23 EE | Brownwood |
| Ainsworth, Edward Maddin | Sp. Sci | Waco |
| Akin, Earl T. | '24 EE | Breckenridge |
| Albritton, John Allen | '23 AA | Kerens |
| Alexander, E. R. | '23 Ag. Ed | Bryan |
| A. B., Baylor University, 1919. | | |
| Allen, Burnice John | '25 Ag | McGregor |
| Allen, Dell Keller | '26 EE | San Antonio |
| Allen, Heber Rieves | '25 AA | Mansfield, La. |
| Allen, Klyce Alton | N 1 | McGregor |
| Allen, Sherwood Thomas | Sp. Ar. | Wichita Falls |
| Allison, James Nealy | '25 ME | Denton |
| Allison, Ulmont Sterling | '24 Ag. Eng. | Bishop |
| Almond, Lyle Seymour | C 2 | Del Rio |
| Almond, Maxwell Douglas | '26 ME | Corsicana |
| Alsmeyer, Henry Louis | '23 Ag | Mission |
| Amberg, Clinton Gerhard | '23 EE | La Grange |
| Amsler, Jack Bernard | '25 TE | Hempstead |
| Amsler, Marcus John | '26 EE | Dallas |
| Amsler, Neill Fred | '24 ChE | Brenham |
| Anderson, John Ramsey | '26 CE | Grapeland |
| Anderson, O. C | '25 Ar. | Smithville |
| Anding, Elbert Beard | '26 EE | Rosebud |
| Ando, Kiyo | '26 EE | Hitchcock |
| Andrew, Hunter Bertram | '25 AA | San Angelo |
| Antoline, Sam | '23 AA | Cheneyville, La. |
| Argudin, Luis | '26 Ag | Orizaba, Ver., Mex. |
| Argudin, Manuel Zarrabal | '23 TE | Orizaba, Ver., Mex. |
| Arhelger, John Wiley | '26 EE | San Saba |
| Arledge, Samuel Fisher | '25 CE | Crockett |
| Armistead, George, Jr | '23 ChE | Houston |
| Armstrong, Raymond Crosby | '26 CE | Wharton |
| Armstrong, Will Baker | '26 ME | Bryan |

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| Arnim, Victor Travis | '26 Ar. | Corpus Christi |
| Arnold, Raymond Wesley | '24 EE. | San Antonio |
| Asbury, Joe Gentry | '26 EE. | Tulia |
| Ashburn, Redman Franklin | '24 EE. | Denison |
| Ashford, John Cecil | Sp. Ar. | College Station |
| Ashford, Langston | '23 EE. | Navasota |
| Ashford, Lewis Thompson | '26 AA. | Diboll |
| Ashworth, Durward Belmont | '23 CE. | Weatherford |
| Atchison, Henry Clay | '23 Ag. | Hindes |
| Atkinson, Andrew Chandler | '24 Ag. | McKinney |
| Aubin, Charles T. | '23 Ar. | San Antonio |
| Aughtry, Robert Cullen | Sp. Ag. | Valley View |
| Austin, Russell Elliston | '25 CE. | Rockwall |
| Axe, Rudolph Alfred | '23 ME. | Texas City |
| Axline, Edwin Jasper | '25 CE. | Maywood, Ill |
| Baccus, Ira Bishop | '24 EE. | Plano |
| Bacher, Robert Marshall | '26 Ar. | Houston |
| Badger, Marion Haygood | '26 AA. | Austin |
| Baggett, Gordon Franklin | '26 AA. | Santa Anna |
| Baggett, Roosevelt Ted | '26 AA. | Holland |
| Bahadur, Mohindra | Sp. Agr. | Hyderabad, Deccan, India |
| A. B., University of Punjab, 1918; M. S., University of Wisconsin, 1922. | | |
| Bailey, Edmond Ira | '24 EE. | Waco |
| Bailey, John | '26 Sci. | Gatesville |
| Bailey, Lewis | '26 Ag. | Bryan |
| Bailey, Percy Smith | '24 CE. | Rusk |
| Bairfield, Charles E. | '23 AA. | Clarendon |
| Baker, Charles Edmund | '26 EE. | Lusk |
| Baker, John Farris | '24 Ag. | Girvin |
| Baker, John Ford | '24 CE. | Fort Worth |
| Baker, Thomas Harrison, Jr. | '23 Ar. | Memphis, Tenn. |
| Ballew, William Fletcher | '25 ChE. | Corsicana |
| Banks, Benjamin B. | '26 AA. | Springtown |
| Barbour, William Lason | '26 CE. | Tampico, Mexico |
| Barcus, Charles Wilburn | '26 AA. | Waco |
| Bardeen, Frank | Sp. AA. | College Station |
| Bare, John Harold | '23 ME. | Yoakum |
| Barglebaugh, Erwin Record | '26 CE. | El Paso |
| Barker, Wayne | '26 ME. | Ranger |
| Barker, Wade Wilson | '25 Ag. | Taylor |
| Barlow, Hayden Samuel | '26 AA. | Kerens |
| Barnard, Marill Marvin | '26 EE. | Acme |
| Barnes, Joe Weldon, Jr. | Sp. AA. | McKinney |
| Barnes, Thomas Gerald | '25 Ag. | Port Arthur |
| Barnett, Marion Bland | '24 Ag. Eng. | McKinney |
| Barrenechea, Francisco Aradio | M I. | San Antonio |
| Barron, Lemuel Hughey | C I. | Palmer |
| Bartholomew, Robert O. | '24 ME. | Dallas |
| Bartlett, Joseph Webster | '23 ChE. | Dallas |
| Bartlett, Silas Conoly | '24 AA. | Marlin |
| Barton, John, Jr. | '26 Ag. | Uteley |
| Barton, John Marshall | '26 CE. | Austin |
| Bass, Nelson Ives | '23 EE. | Hubbard |
| Batchler, J. B. | '26 ME. | Graham |
| Batis, Noah Ira | '25 AA. | Sanger |
| Batot, Milton John | '25 Ar. | Hondo |
| Baty, James Bernard | '24 CE. | Taylor |
| Baughn, Carey Cornelius | '24 CE. | Mineral Wells |
| Baxt, David Benjamin | '25 Ag. | San Antonio |
| Bayless, Arthur | '26 AA. | Hillsboro |
| Bayley, Clyde Calvin | '25 EE. | Goldthwaite |
| Baylin, Meyer | '26 EE. | San Antonio |
| Beale, Requa Leonard | '23 EE. | Fort Worth |
| Bean, George Everett | '26 EE. | Lubbock |

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| Beavan, Reginald Arthur | C 2 | Plas Celyn, England |
| Beckworth, Hansel Turner | '25 AA | Sinton |
| Beers, Mary D | Sp | Bryan |
| Behymer, Malcolm Harold | '26 EE | Longview |
| Bell, Daniel Grafton | '25 EE | Hereford |
| Bell, Henry Newton, Jr. | '25 Ag | Bastrop |
| Bellomy, Ray Frank | '25 Ar | Stephenville |
| Belsher, Horace Ellisor | '26 ChE | Houston |
| Benkendorfer, Joseph Milford | '26 CE | San Antonio |
| Bennett, Henry Clair | '25 Ar | Fort Worth |
| Benson, Samuel Virginius | '25 AA | Camden, Ark. |
| Berendt, Elmore Frederick | '25 EE | San Antonio |
| Berger, Lewis Andrew | '24 Ag | Flatonia |
| Bergman, Sol Harry | '26 Sci | Livingston |
| Bernard, Frederick George | Sp. Ag | Mercedes |
| Bernardoni, Bernard | '26 ChE | Galveston |
| Bery, John Russell | '26 AA | Groveton |
| Berry, Robert Henley | '26 EE | Paris |
| Brest, Richard Albin | '23 TE | Houston |
| Beutel, Herbert William | '26 Ar | Houston |
| Bickel, Leonard Aldis | '25 ME | Era |
| Biggers, Julian Lawson | Sp. Sci | Bonham |
| Bilsing, Sherman W | Sp. Ag | College Station |
| Bingham, William Harrell | '26 EE | Aspermont |
| Birdsong, Bailey Simmons | '26 TE | Greenville |
| Birdwell, Leroy | Sp. Ag | Overton |
| Bishop, Raphael Kenard | N 1 | Garden City |
| Bizzell, Elaine Ray | Sp | College Station |
| Black, Alan Rolland | '24 ME | Ingleside |
| Black, John Palmer, Jr | '26 EE | Temple |
| Black, Leslie Gordan | '26 EE | Temple |
| Black, Thomas Reaves | C 2 | Morgan |
| Blackberg, Sol Nathan | Sp. Sci | College Station |
| D. V. M., Cornell University, 1917. | | |
| Blackburn, Philip Ross | '26 EE | Dallas |
| Blair, Roy McDonald | '26 ME | Corsicana |
| Blankinship, Wallace Benson | '25 Ag. Eng. | Lubbock |
| Blanton, Lewis Perry | '26 AA | Lorena |
| Blevins, Edward | '25 EE | DeQueen, Ark. |
| Blount, Wilfred Garrison | '24 Ag | Nacogdoches |
| Blum, Charles James | '23 EE | San Antonio |
| Boal, Lawrence Nicholas | '26 AA | Dallas |
| Bock, Isadore | '25 ME | Dallas |
| Bodine, Newton Barnart | Sp. CE | San Angelo |
| Bodine, Willis Raymond | '26 EE | Temple |
| Body, James Everett | C 1 | Dallas |
| Boehne, Eugene Wheelock | '26 EE | Galveston |
| Boelsche, Ralph Albert | '26 ChE | Industry |
| Boger, Allen Dickson | '25 AA | Vernon |
| Boles, Cecil Calvert | '26 ME | Gordon |
| Bone, Harry de Ponta | '25 CE | Dallas |
| Bone, Norfleet Giddings | '23 Ag | Dallas |
| Bonnett, Ralph Gazelle | '24 AA | San Antonio |
| Bonvillain, Raphael Frank | '26 AA | Houston |
| Boone, Lloyd Bates | '24 AA | West |
| Boriskie, Paul Peter | '26 VM | Bryan |
| Bose, John Carlos | '23 CE | San Antonio |
| Bosshardt, Carl Eugene | '26 Sci | San Antonio |
| Bothe, Roland Charles | '25 TE | Seguin |
| Bourland, Delphus David | '26 ME | Vernon |
| Bowden, Edward Lane | '24 Ag | Lockhart |
| Bowen, Francis Copass | '26 EE | Lubbock |
| Boyce, James Cecil | '26 CE | Dallas |
| Boyd, James Greenup | '26 Sci | Houston |
| Boyett, Charles Comer | '25 AA | Hope, Ark. |
| Bozek, Willie | M 2 | Ennis |

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| Bradford, Aubrey LeVerne | '26 ChE. | Fort Worth |
| Bradford, Bernie Leslie | '23 Ag. Ed. | Iowa Park |
| Bradford, Jim Bucknell | '24 AA. | Memphis, Tenn. |
| Bramblett, Lyfus Wilburn | '26 EE. | Vernon |
| Brandt, Edward Dupree | '23 CE. | Houston |
| Braselton, John William | '26 ChE. | Corsicana |
| Brashear, Eugene Allen | '26 EE. | Tahoka |
| Braswell, Alvin Merritt | '26 ME. | McKinney |
| Brazelton, Andrew Jackson | '26 EE. | Palestine |
| Bredthauer, Dudley Fred | '26 AA. | Georgetown |
| Brehmer, Herbert | '26 Ag. | San Antonio |
| Brewster, Clarence Burk, Jr. | '26 Sci. | Fort Worth |
| Brewster, Edward Dodd | '26 CE. | Laredo |
| Brewton, Evon Ercil | '26 EE. | Prichard, Ala. |
| Bridges, William Walter | '23 Ag. | Glen Rose |
| Brieger, Gussie Edmund | '26 EE. | Taylor |
| Brient, Albert Sidney | '24 AA. | San Antonio |
| Bright, Delpherd Wallace | '26 CE. | Wichita Falls |
| Brill, Virgil | '26 Sci. | Austin |
| Brinkmann, Martin | '26 Ar. | Comfort |
| Brison, Ross Harrison | '23 Ag. | Pittsburg |
| Brock, Fred Augustus, Jr. | '26 ChE. | Angleton |
| Brockschmidt, Christian Louis | '26 EE. | Dallas |
| Brook, Winston Marshall | '26 ChE. | Rosebud |
| Brouer, Orville Ariel | '25 ChE. | Fort Worth |
| Brower, Joseph Cole | '26 AA. | Dallas |
| Brown, Ben Franklin | '23 Ag. | Rockwall |
| Brown, Edgar Allen | '24 CE. | Fort Worth |
| Brown, Glenn Allan | '26 Ag. | Garland |
| Brown, Gilbert Humphrey | '23 ME. | Bryan |
| Brown, Melville Campbell | Sp. AA. | Fort Worth |
| Brown, R. A. | '26 Ag. | Fort Worth |
| Brown, Robert Carlyle | M 1. | Dallas |
| Brown, Ralph Donald | Sp. Ag. | Saint Albans, Ver. |
| Brown, William Asbury | '25 ChE. | Dallas |
| Broxton, Malcolm Irwin | '23 Ag. | Rockdale |
| Broyles, James Edwin | Sp. AA. | Riverside |
| Bryan, Clifford LaFayette | '24 ME. | Vernon |
| Bryan, James Robert | Sp. Ag. Eng. | Plano |
| Bryant, Tom Earl | '26 EE. | Moody |
| Buchanan, Graham Clay | '26 EE. | Caddo Mills |
| Buchanan, Spencer Jennings | '25 CE. | Yoakum |
| Buchanan, William Henry | '26 AA. | Bryan |
| Buck, Ervin Oscar | '26 EE. | Beaumont |
| Buckley, Charles Clark | '24 CE. | Jourdanton |
| Buckner, Floyd King | '23 CE. | Weatherford |
| Buhler, George Theodore | '26 CE. | Edna |
| Bullock, Wendell Barnes | '23 EE. | Weatherford |
| Bundrick, Hardin Samuel | '26 ME. | Floresville |
| Bunker, Page S. | Sp. Sci. | College Station |
| Bunker, Sterling Chester | '25 Ar. | Port Arthur |
| Burden, John Paul | '25 CE. | Gordonville |
| Burgess, John Sanderlain, Jr. | '26 CE. | Dallas |
| Burkhart, Fred Charles | '25 ChE. | Houston |
| Burks, Frank Scott | '26 AA. | Pilot Point |
| Burleson, Richard Adair | '25 CE. | Waco |
| Burlingham, Nelson Nathan | '26 ME. | Dallas |
| Burmeister, Gustave | '23 Ag. | Christine |
| Burnam, Robert Maurice | Sp. Ag. Eng. | Marble Falls |
| Burnitt, Seth, Jr. | '26 Ag. | Calvert |
| Burns, Patton Wright | '23 Ag. | Cuero |
| Burns, Ross Calvin | '23 Ag. | San Antonio |
| Burt, Jesse Franklin | '25 ChE. | San Antonio |
| Bynum, William Arnice | '25 ChE. | Midlothian |
| Byrd, Olon Lowery | '24 Ag. | Waco |
| Byrne, George Edward | '26 AA. | Marshall |

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| Byrne, Lewis Patrick | '26 AA | Smithville |
| Byrom, Mills Herbert | '26 EE | Crown |
| Cade, George Henry | '26 ME | Rockwall |
| Caillet, Otto Riehn | '26 AA | Dallas |
| Cain, Charles Casper | C 1 | San Antonio |
| Caldwell, Roscoe Leonidas | '25 CE | Seymour |
| Caldwell, Thomas Buncombe, Jr. | '26 Ag | Mt. Pleasant |
| Caldwell, Will Howard | '25 AA | La Grange |
| Callaway, George Newton | '25 ME | Palestine |
| Callaway, John Walker | '26 TE | Itasca |
| Callaway, Lester Howard | '26 AA | Crockett |
| Callender, Everett Elton | '26 Ag | Port Arthur |
| Calvin, Elmer Ben | '24 CE | Graham |
| Camp, Charles Walter | '25 Ag | Brownwood |
| Campbell, Drew Allen | '26 ME | Bridgeport |
| Campbell, Leslie Irving | Sp. Ag. | Copemish, Mich. |
| Campbell, Malcolm McDonald | '26 AA | Bonham |
| Campbell, Roy Baker | Sp. Ag. | Seguin |
| Campbell, Robert Murphey | '26 AA | San Angelo |
| Canion, Claude | '25 VM | Port Lavaca |
| Canon, Clayton Lawrence | '26 CE | Jacksonville |
| Cantrell, Royal | '26 Ar. | Tulia |
| Capers, Edward | '26 ChE | Bowie |
| Cappleman, Lester James | '25 Ag | Honey Grove |
| Carleton, Robert Earl | Sp. Ag. | Spur |
| Carlson, Oluf Guy | '26 Sci | Fort Worth |
| Carlton, Duane William | '23 Ag | Fort Worth |
| Carlton, Melvin Walter | '25 Ag | Austin |
| Carlton, Robert Ardine | '23 EE | Fort Worth |
| Carmichael, John Fears | '25 Ag | Granbury |
| Carnes, Peyton Savin | '26 Ag | Dallas |
| Carney, James Thomas, Jr | '26 CE | Eagle Lake |
| Carpenter, Jack Tom | '26 Ag | San Benito |
| Carpenter, Neill George | '26 EE | Texarkana |
| Carr, Charles Eldred | '23 Ag | Bay City |
| Carroll, Bond Ernest | Sp. AA | Houston |
| Carroll, Hugh Anton | '23 EE | Galveston |
| Carroll, Homer Clarence | '23 CE | Dallas |
| Carson, Carl Langford | '26 ME | Waco |
| Carter, Launcelot Abbotts, Jr. | '26 AA | Cuero |
| Carter, Robert Harrold | '26 Ar. | Denison |
| Casey, Earl Otto | N 1 | Mullin |
| Castleberry, James Jack | '26 ME | Longview |
| Caswell, William Hilliard | '26 ME | Beaumont |
| Caton, Thomas Wayne | '26 ME | Clarksville |
| Causby, J. Allen | '25 CE | Crandall |
| Caveness, Edward Ross | '26 AA | Jacksonville |
| Cavett, William Dickson | '26 EE | Shreveport, La. |
| Cejka, Fred George | Sp. Ag. | Sublime |
| Cerf, Harry Fredrick, Jr. | '26 AA | Fort Worth |
| Chambers, Ben Ro. | '26 Ag | Houston |
| Chambers, John Bennette | '23 Ag | Harlingen |
| Chandler, Joe Newton | '25 ME | Weatherford |
| Chapa, Emilio | '24 Ag | San Antonio |
| Chapman, Clifford Grady | N 2 | Forney |
| Chapman, Dewitt Charles | '24 Ag | Waco |
| Chapman, Joseph Burdette | '26 EE | Texas City |
| Chapman, Marvin D. | C 1 | Bastrop |
| Chapman, Stanley Parks | '25 EE | Hutchins |
| Chappelle, Hugh Lyman | Sp. ME | College Station |
| Chase, Robert Harold | '25 AA | Galveston |
| Chatham, Thomas Jacob | '26 AA | Marshall |
| Cheaney, Frank Hall | '26 ME | Dallas |
| Chenoweth, Swepson Clinton | '26 EE | Dallas |
| Chewning, Cornelius Franklin | '26 CE | Wichita Falls |

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| Chilcoat, Milton Benjamin | '26 EE | Corsicana |
| Childs, Rinfred Robert | '26 Ag | Jacksonville |
| Chimene, Irvin Edward | '24 EE | Houston |
| Chipley, Chesley Allen | '26 CE | Crosbyton |
| Chisholm, Cecil Jackson | '25 EE | Waco |
| Christensen, George Edmund | '26 Ar | Dallas |
| Christensen, William Ole | '26 Ar | Dallas |
| Christopher, Russell Graham | '26 Ar | Plano |
| Cimo, Philip | '24 ME | Waco |
| Clark, Alton Rennerick | '24 EE | Cross Plains |
| Clark, Ben C. | Sp. Ar | Cleburne |
| Clark, Prior H. | C 2 | College Station |
| Clarke, Jordar Lee | '25 ME | San Antonio |
| Clarke, James Tidmarsh | '24 ChE | San Antonio |
| Clay, Louis House | '24 ME | Fort Worth |
| Clayton, Newton Halbert | '26 AA | Corsicana |
| Cleaver, Thurman Tennyson | '24 EE | Troup |
| Clemens, Ferdinand Adolph | '26 EE | San Antonio |
| Clement, George Kilgore | '23 EE | Cameron |
| Cliett, Taylor | '26 AA | San Marcos |
| Close, Cephas Major | '23 Ag | Dallas |
| Cloud, William Griffith | '25 Ag | Bryan |
| Clousnitzer, Calvin Grundy | '26 EE | Kenedy |
| Clutter, James A. | Sp. AE | College Station |
| Cockrell, Clifford McDonald | '26 ME | Marshall |
| Cole, John Stephen | '26 ME | Dallas |
| Coleman, Henry James | '26 CE | Dallas |
| Coleman, Thompson Crawford | '26 ME | Wills Point |
| Colglazier, Robert Wesley, Jr. | '25 CE | San Antonio |
| Collins, Edward Schanck | '25 EE | Jefferson |
| Collins, Herschel Eugene | '26 EE | Mount Selman |
| Compton, Charles Reed | '23 Ag | Waco |
| Cone, Irvin Houston | '26 ME | Floresville |
| Conn, Lannie | '26 Sci | Houston |
| Contreras, Herman Howard | '23 ME | Rio Grande City |
| Conway, John | '26 AA | Ithaca, New York |
| Cook, William Bert | '26 CE | Sealy |
| Cooper, Forrest Walter | '25 Ag | Center |
| Cooper, Hardage Phillips | '26 ME | Harlingen |
| Cooper, James Erwin, Jr. | '26 CE | Forreston |
| Cooper, John Prentiss | '25 CE | Dallas |
| Cope, Parks | '26 EE | Abilene |
| Corbett, William Carl | '24 TE | Fort Worth |
| Cordell, Ben Early | '24 CE | San Antonio |
| Corder, John Mount | '26 EE | Dallas |
| Cornwall, John Vincent | '26 EE | Marshall |
| Cottingame, William Kellie | '24 Ag | Milford |
| Couch, Martin Homer | '26 EE | Kaufman |
| Coursey, Ralph Waldo | '26 EE | Alba |
| Courville, Dan Batiste | '26 EE | Reagan |
| Covey, Edgar Cole | '26 AA | Bryan |
| Cowan, Paul | '24 Ag | Dallas |
| Cowan, Woody Leon | '26 CE | Pecos |
| Cox, Clifton Kirby | '26 CE | Sweetwater |
| Cox, Demmie Herbert | '24 Ar | Houston |
| Cox, Roland O | '24 TE | Garrett |
| Craddock, Willoughby Richard | '26 VM | Brady |
| Craig, Charles Lawson | '25 AA | Brookston |
| Craig, George Dewey | Sp. AA | Brookston |
| Craig, Jones Newton | '26 Ag | Eldorado |
| Craig, William Guy | '25 AA | Brookston |
| Crass, Johnnie Bart | '25 ME | Electra |
| Crawford, John McCullough | '26 Sci | Bryan |
| Crawford, Leonard Hayden | '26 CE | Mexia |
| Crawford, Robert Allison | '24 ME | Jonesboro, Ark. |
| Crawford, Robert Haden | '26 AA | Chicota |

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| Creager, Scott Crawford | '26 AA | San Antonio |
| Creed, Reginald Farquhar | '25 ME | Bryan |
| Creveling, DeWitt, Jr | '25 Ag | San Luis Potosi, Mexico |
| Creveling, Robert | '26 EE | San Luis Potosi, Mexico |
| Crockett, Robert Slater | '24 ChE | Chapel Hill |
| Crosnoe, Clyde Cecil | '23 Ag. Eng. | Hope, Arkansas |
| Crowley, Bernard Reuvelt | '26 CE | Paris |
| Crozier, Joseph Bailey | '26 EE | Cleburne |
| Cunningham, John Franklin | '24 ChE | Fort Worth |
| Currie, Victor Monte | '24 CE | Houston |
| Curry, George Geoffrey | '26 Ag | Bay City |
| Curtis, Harry Lamar | '26 Ar | Dallas |
| Curtis, John Parker | '26 Ag | San Antonio |
| Curtis, Milton Volney | '26 CE | Rogers |
| Curtis, Thomas Sanford | '26 AA | Wills Point |
| Curtis, Vernor | '26 Ag | Hereford |
| Curtiss, Stanley Chance | Sp. ME | El Paso |
| Cushing, Emory Clayton | '23 Sci | Stockdale |
| Dabney, Virgil Claude | '24 IE | San Antonio |
| Dahlberg, Frank Iver | '25 Ag | Taylor |
| Dahlberg, Gunnard Alvin | '23 Ag | Taylor |
| Dalton, Raymond Edgar | '26 CE | Waxahachie |
| Dalton, William Homer | '26 Ar | Hillsboro |
| Damon, Archie Mayfield | '25 Ar | Houston |
| Daniel, Richard Love | '26 Ag | Corsicana |
| Danna, John Bradfield | '25 Ar | Dallas |
| Dansby, Norman John | '26 Ag | Bryan |
| Darby, Eugene Benjamin | '24 CE | Houston |
| Dart, Miles Ethelbert | '25 EE | Dallas |
| Davidson, Charles Lee | '25 AA | Richmond |
| Davidson, Ray Elmer | N 1 | Pearland |
| Davidson, Walter Hollick | '24 CE | Fort Worth |
| Davis, Birdwell Cope | '26 Ag | Sonora |
| Davis, Clifford Charles | '25 AA | Neches |
| Davis, Darrell Moer | '26 EE | Mertens |
| Davis, Edgar Albert | '26 TE | Itasca |
| Davis, Kenneth Edwin | '26 CE | Mansfield |
| Davis, Roy Francis | '24 CE | Nacogdoches |
| Davis, Thomas Clement | '23 AA | Marfa |
| Dealy, Marvin Edward | '25 AA | Houston |
| Dean, Waid Hampton | '26 EE | Campbell |
| DeAsis, Guillermo | '24 Ag | Dumangas, P. I. |
| Debnam, Steven Alva | '26 Ag | Lamesa |
| de Bruin, Nathaniel Massie | '26 ME | Houston |
| Deden, Edward Martin | C 2 | Houston |
| De Lange, Walter Howard | '25 CE | Sherman |
| Denny, Ulysses Samuel | '26 AA | Moody |
| De Pasquale, Domenic Victor | '24 CE | Dickinson |
| Dermody, Bernard Casper | '26 Ag | Uvalde |
| DeuPree, Elijah Julius | '25 CE | Crockett |
| Devereux, Frank Douglas | '26 AA | Jacksonville |
| DeVilbiss, Judson Earnest | '26 Ag | Pearsall |
| Dick, Kelsey Morgan | '26 AA | Clarksville |
| Dieterich, Louis Gunther | '26 Ag | Dallas |
| Dilworth, James Colwell, Jr | C 2 | Gonzales |
| Disch, Oran Dorsett | '26 ME | Franklin, La. |
| Dixon, James Polk | '26 AA | Jacksonville |
| Dobbs, James Robert | '26 EE | Longview |
| Dockum, Charles Robert | '26 EE | Corsicana |
| Dodd, Barney Airheart | '25 Ar | Yoakum |
| Dodge, Fred Knowlton | '26 EE | Jacksonville |
| Dodge, Lee | '24 ChE | Abilene |
| Dodson, Charles Henry | '26 CE | Waco |

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| Dodson, Lewis | '26 Ag | Amarillo |
| Dodson, Samuel Breeding | '26 AE | College Station |
| Dodson, Thomas Alpin | '26 EE | Abilene |
| Dollinger, Charles Rouse | '26 ME | Beaumont |
| Donald, Pryor | '24 Ag | Fort Worth |
| Dorsey, Julius William | '26 Ag | Henryetta, Okla. |
| Doty, Aquilla Ira | '26 Ar | Alief |
| Douthit, Lawrence Henry | Sp. AA | Dallas |
| Dowden, Virgil Forbs | '26 EE | San Antonio |
| Dowlen, Carney Lee | '26 CE | Dallas |
| Downard, Helen Virginia | Sp. | Bryan |
| Downs, Frederick Holstan, Jr | '23 Ag | Fal, La. |
| Drake, Rowe Shear | '24 EE | Winchester |
| Drisdale, John Virg | '25 Ag | Juno |
| Drushel, George Gilbert | '26 EE | Edna |
| DuBois, Harold Vantrese | '25 TE | Dallas |
| Duckett, Harry Davis | '25 Ag. Eng | Houston |
| Duckworth, Howard Albert | '26 EE | Collegeport |
| Duff, Emory | N 2 | Los Angeles, Calif. |
| Duggan, Randolph Freeman, Jr | '26 Sci | Dallas |
| Duke, Ernest Ray | '23 Ag | Claude |
| Dulaney, Fred Seal | '26 TE | Bonham |
| Duncan, Elsie | Sp. | College Station |
| Dunn, Herman | '23 ChE | Dallas |
| Dunn, James Howell | '25 ME | Dallas |
| Dunnam, Leigh Keats | '24 ME | Corpus Christi |
| Dunnam, Samuel Whittington | '25 EE | Corpus Christi |
| Durst, Louis Hopkins | '26 EE | Crockett |
| Eargle, Robert Gray | '24 EE | Fort Worth |
| Earle, John Sears | '24 TE | Waco |
| Easton, Robert Browning | '23 Ag | Sinton |
| Eby, Albert Newman | '26 EE | Austin |
| Eddins, John Rufus | '26 EE | Marlin |
| Edds, George Henry | '26 AA | Hebbronville |
| Edgley, Max | '24 ChE | Port Arthur |
| Edmondson, Joe Meredith | N 2 | Waxahachie |
| Edmondson, James Stith | '25 CE | Waco |
| Edmondson, William Leonard, Jr | '26 Sci | Houston |
| Edwards, Cyrus Leroy | '25 ME | San Antonio |
| Egan, Allen Lyman, Jr | '23 Ag | Dallas |
| Ehlers, Werner Jack | '26 AA | La Grange |
| Eitt, Henry William | '26 ME | San Antonio |
| Elliott, Arthur Lee | '25 Ag. Eng | Corsicana |
| Elliott, Lawrence Clifton | '24 EE | Greenville |
| Elliott, Ray | Sp. Ar | Cleveland |
| Ellis, Willis Tinsley | '26 EE | San Antonio |
| Elliston, Fred Addison | '26 EE | Fort Worth |
| El Nouty, Abd El aziz Hassan | '25 Ag | Cairo, Egypt |
| Elwell, Clarence | '23 Ag | College Station |
| Emmons, William Byron | '26 Ag | Clarendon |
| Engel, Kenneth Earl | '25 EE | Seguin |
| Epperly, Leslie Martell | '26 EE | Fort Worth |
| Epperson, Roswell Stewart | Sp. Sci | Cameron |
| Eppright, George | '26 EE | Manor |
| Erskine, Alexander Madison | '24 CE | San Antonio |
| Erwin, Will Bailey | '25 ME | Dallas |
| Eschenburg, Carl Robert | '24 ChE | Floresville |
| Estep, Forest Lynn | '26 Ar | Dallas |
| Estill, Junius Fishburne | '25 EE | Wharton |
| Eubank, Broocke Knight | '24 ChE | Cross Plains |
| Evans, Andrew Jackson | '25 EE | San Antonio |
| Evans, Jewel Jones | '26 ME | El Campo |
| Evans, Silvesta | '26 CE | Clarksville |
| Everett, William Joseph | '24 EE | Fort Worth |
| Eversberg, Hervey L | '26 ME | Brenham |

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| Ewbank, Eric Erroll | '24 EE | San Benito |
| Ewing, Rufus Alonzo | '26 EE | Hillsboro |
| Fancher, Ben Bedford | '25 CE | Seymour |
| Farmer, Thornton James | '26 AA | Dallas |
| Farmer, Walter Lowrey | '26 EE | Smithville |
| Farquhar, Robert Edward | '25 CE | Ennis |
| Faulk, Nathan Morris | '25 Ag. Eng. | Corpus Christi |
| Faulkner, Louis Wilford | '26 Ar. | Santa Anna |
| Faure, Leonard Leopold | '23 ChE. | Houston |
| Faust, Walter, Jr. | '26 Ar. | New Braunfels |
| Fawcett, Horace Keyes | '24 Ag. | Del Rio |
| Fay, Owen James | '23 EE | Taft |
| Feilschmidt, Joseph | '26 Sci. | Dallas |
| Fenstermaker, Arthur | '24 Ar. | San Antonio |
| Ferguson, William Milton, Jr. | '26 AE | Tipton, Mo. |
| Ferrucci, Ferruccio Joseph | '24 Ar. | Galveston |
| Field, Henry D., Jr. | '25 AA | Saint Jo |
| Field, Stanton McNeal | '25 CE | Lockhart |
| Field, William West | '25 CE | Lockhart |
| Fine, Carl | '26 TE | Charlotte, N. C. |
| Finks, Jack Eubank | '25 Ag. | Austin |
| Fisher, Norman | '25 ME | Cuero |
| Fitzwilliam, Morgan Sayers | '23 EE | Smithville |
| Fix, William Avery | '26 ChE. | Terrell |
| Fletcher, Robert Kemble | Sp. Ag. | College Station |
| Flint, William Edwin | '26 Ag. | San Antonio |
| Flowers, Alsop Edward | '25 ChE. | Dallas |
| Floyd, Jay Hawkins | '26 Ag. | Midland |
| Floyd, Leslie Eugene | '26 Ag. | Midland |
| Foerster, Alvin E. | '24 AA | Rosenberg |
| Foester, Curtis Marsh | '26 Ag. | Port Lavaca |
| Foester, Louis John | '25 Ag. | Port Lavaca |
| Ford, Jess Frank, Jr. | '26 Ag. | Dallas |
| Forga, Louis Alfred | Sp. TE | Arequipa, Peru, S.A. |
| Forgason, Jack Pope | '26 Ag. | San Antonio |
| Forgason, James Yewell | '25 AA | San Antonio |
| Forrest, Francis Bedford | '24 Ag. | Waxahachie |
| Forrester, Vade Giles | '25 AA | Belton |
| Forson, Ford | N 1 | Clifton |
| Foskette, Abner Winslow | '26 Ag. | Rio Hondo |
| Foster, Lawrence | '26 EE | Saratoga |
| Foster, Sumner Bacon | '26 EE | Fort Worth |
| Fountain, Eugene Royce | '26 ChE. | Ennis |
| Fox, Shelby Clifford | '26 Ag. | San Antonio |
| Fram, Phillip | '23 CE | Dallas |
| Franck, Sol Rhein | '25 ME | San Antonio |
| Franke, Edwin Glenn | '26 CE | Industry |
| Franklin, Charles Sidney | '26 EE | Waco |
| Franklin, George Emory | '26 Sci. | Bryan |
| Franklin, Jack Coleman | '26 Ar. | McKinney |
| Franklin, John Vance | '26 AA | Greenville |
| Fraps, George Saunders | '25 CE | College Station |
| Frary, Rodney William | Sp. Sci. | College Station |
| Fraser, Claud Kirk | '23 Ag. | College Station |
| Frederick, Wayne Bascom | '26 AA | Blooming Grove |
| Frederick, William Richard, Jr. | '25 CE | Fort Worth |
| Freeborough, Benjamin Bonnett | '26 CE | San Antonio |
| Freeland Waggoner Derward | '26 EE | Mount Selman |
| Freeman, Josiah Bailey | '26 Ag. | Alvarado |
| Friend, Ben William | '26 EE | Electra |
| Fritchie, Charles Julius | '25 CE | Slidell, La. |
| Fry, Cecil Romard | '26 Ag. | Leonard |
| Fuller, Allan Chamberlin | Sp. AE | Bryan |
| Fultun, Wensel | '26 EE | Corsicana |

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| Fuqua, Claude Clement..... | '24 ChE..... | Ashland, La. |
| Furneaux, Joe Edward..... | '26 EE..... | Carrollton |
| Gaines, Homer C..... | '26 EE..... | San Juan |
| Gaines, Robert Paul..... | '26 Ag..... | San Juan |
| Gailey, Walter Clarence..... | '24 Ag..... | Grapeland |
| Galbraith, John Warren..... | '25 CE..... | Belton |
| Galbraith, Oliver, Jr..... | '25 ME..... | Pine Bluff, Ark. |
| Galle, Alfred Emil..... | '26 Ar..... | New Braunfels |
| Galley, Cyrus Abel..... | '26 Ag. Eng..... | Hereford |
| Garner, Thomas Hennessey..... | '26 EE..... | Port Lavaca |
| Garnett, Edward Winne..... | '23 CE..... | Denton |
| Garonzik, Herbert Solomon..... | '26 Sci..... | Dallas |
| Garrett, Claude Harmon, Jr..... | '26 CE..... | Groesbeck |
| Garrett, Glenn Edwin..... | '26 AA..... | Weimar |
| Garrett, George Moses..... | '24 CE..... | Paris |
| Garrett, Richard Lawrence..... | '24 EE..... | Weimar |
| Garry, Mahon Barker..... | '25 Ag..... | Taylor |
| Garza, Ralph Joseph, Jr..... | '26 EE..... | San Antonio |
| Gaston, Eldred Lenox..... | '25 AA..... | Nacogdoches |
| Gaston, Edwin Willmer..... | '25 AA..... | Nacogdoches |
| Gaston, Thomas Lee, Jr..... | '24 AA..... | Myra |
| Gathings, William Jackson..... | '26 ME..... | Covington |
| Gatlin, Carl Earl..... | '25 AA..... | Miami |
| Gatlin, Eugene N..... | '24 Ag. Eng..... | Ladonia |
| Gatton, William Otho, Jr..... | '26 ChE..... | Amarillo |
| Geer, Olin Monroe..... | '26 CE..... | Anna |
| Gelber, Isidor..... | '26 Ag..... | Bryan |
| Gentry, Claud Christopher..... | '26 ME..... | Abilene |
| Gentry, Oliver Curtis..... | '25 AA..... | Acme |
| Gerbens, Harry Benjamin..... | '26 ME..... | Port Arthur |
| Gerdes, Gaylord Agamemnon..... | '26 AA..... | Sinton |
| Germany, Fred..... | '26 Ag..... | Fort Worth |
| Giarraputo, Louis Anthony..... | '26 Sci..... | Denison |
| Gibson, Alonzo Newton..... | '25 ChE..... | Gainesville |
| Gibson, Estell L..... | '25 CE..... | Burkburnett |
| Gibson, Joseph Kerr..... | '25 CE..... | Lufkin |
| Gibson, William Meade..... | '23 ChE..... | Commerce |
| Giesecke, Adolph Hartung..... | '26 Ag..... | San Antonio |
| Giffin, Horace Adelbert..... | C 2..... | Sabinal |
| Gilbert, Joe Thorne..... | '26 Sci..... | Austin |
| Gilchriest, Eugene Daniel..... | '25 Ag..... | Bon Wier |
| Gill, E. King..... | '25 AA..... | Dallas |
| Gill, Grayson Woodward..... | Sp. AE..... | College Station |
| Gillespie, James Gordon..... | '26 Ag..... | Coleman |
| Gillespie, Lowell Edward..... | '26 ME..... | Jacksonville |
| Gilley, Richard Hays..... | '26 ME..... | Caldwell |
| Gilley, Thomas G..... | '23 EE..... | Caldwell |
| Gilliland, Jack William..... | '26 AA..... | Fort Worth |
| Gindrup, Julian Laval..... | '26 EE..... | Willis |
| Ginn, Victor Lovelace..... | '24 ME..... | Granbury |
| Gips, Manfred Otto..... | '26 EE..... | Yorktown |
| Gladney, Charles Barbee..... | Sp. Sci..... | College Station |
| Glass, Vergil Clark..... | '26 AA..... | Gilmer |
| Glenney, Ralph Holmgreen..... | '25 ME..... | San Antonio |
| Goad, Herman John..... | N 2..... | Dallas |
| Gohlke, Vernor Herbert..... | '25 ChE..... | Cuero |
| Gohmert, Edward Herman..... | '24 Ag. Eng..... | Yorktown |
| Golasinski, Leonard Bernard..... | '25 ME..... | Houston |
| Goldman, Adolph, Jr..... | '26 Sci..... | Austin |
| Gomez, Federico..... | '26 Ag..... | Sinares, Mexico |
| Gonzalez, Manuel B..... | Sp. AA..... | Laredo |
| Gonzalez, Rafael A..... | '25 ME..... | San Antonio |
| Goodenough, Herbert Francis..... | '25 ME..... | Alice |
| Gorman, Carl Frederick..... | '24 Ag. Eng..... | Winnboro |
| Gorman, Eugene..... | '26 Ag..... | Beaumont |

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| Gorman, John Alexander..... | '23 Ag..... | Beaumont |
| Goss, Henry Vollandis..... | '25 ME..... | Abilene |
| Gottwald, Norwood Henry..... | '26 ChE..... | Harwood |
| Gough, Roy Hampton..... | '25 AA..... | Amarillo |
| Govea, Herminio..... | '23 Ag..... | Torreón, Mexico |
| Grace, John Floyd..... | '26 Ag..... | Cotulla |
| Graham, Calhoun McCulloch..... | '25 AA..... | Bryan |
| Granbery, Paul Percy, Jr..... | '26 ChE..... | Marshall |
| Grant, Jack James..... | '25 AA..... | Corpus Christi |
| Graves, John Arthur..... | '24 Ag..... | East Andover, N. H. |
| Gray, Benny Frank..... | '23 Ag..... | Slocum |
| Green, Sidney Minton..... | '26 TE..... | Denison |
| Greening, Kenneth Gilbert..... | '24 TE..... | Hope, Arkansas |
| Greenstreet, Wilbur Horace..... | '25 Ag. Eng..... | Laredo |
| Greer, Dewitt Carlock..... | '23 CE..... | Pittsburg |
| Greer, John William..... | '26 AE..... | Irene |
| Greer, Lanier..... | '24 EE..... | San Antonio |
| Griegory, Clyde Rivers..... | N 2..... | Bryan |
| Griffin, George Bradford..... | '24 EE..... | Henderson |
| Griffith, Fuller Orville, Jr..... | '23 EE..... | Quanah |
| Gripon, Lee Hardy..... | '24 CE..... | Beaumont |
| Grissom, Samuel Benson..... | '24 ME..... | Granbury |
| Groginsky, Ross Lee..... | '26 CE..... | Bryan |
| Gronce, Waldemar Henry..... | '26 ChE..... | Goldfinch |
| Grout, Geraldine..... | Sp..... | College Station |
| Grout, Thaddeus Tisdale..... | '25 Ag..... | College Station |
| Grover, Rufus Markham..... | '24 EE..... | Bay City |
| Grun, Gustav James..... | '26 ME..... | Yorktown |
| Guelfi, Peter..... | '26 EE..... | Galveston |
| Guiberson, Harry Ronald..... | '24 Ar..... | Seattle, Wash. |
| Guimaraes, Cyneas Lima..... | Sp. Ag..... | Belo Horizonte, Brazil |
| Guion, Wade Fentress..... | '25 ME..... | Austin |
| Gulledge, Stephen Hampton..... | '26 CE..... | Jackson, Tenn. |
| Gunn, Jerome Lafayette..... | '26 ME..... | Leona |
| Gunter, Elma Curtis..... | '25 AA..... | San Angelo |
| Gurinsky, Wolford Lowell..... | '25 AA..... | Gonzales |
| Gurley, John Mark..... | '26 CE..... | Denton |
| Guthrie, Syle Yoakum..... | '26 ME..... | Dallas |
| Guyer, Paul Marline..... | '26 CE..... | Dalhart |
| Hagan, Lester Eason..... | '26 CE..... | Lancaster |
| Hail, William Dudley..... | '23 Ag..... | Crockett |
| Haile, Jack Blaisdell..... | '26 CE..... | Knippa |
| Hailey, Cyrus Hale..... | '23 Ag..... | Marlin |
| Hairston, Robert Roy..... | '24 AA..... | Timpson |
| Hale, Will Carleton..... | '23 Ag..... | Westover |
| Hall, Ebbie Ewen..... | '26 ChE..... | Kirbyville |
| Hall, Earl Wendell..... | '26 ME..... | Farmersville |
| Hall, Sheldon Daniel..... | '26 Ag..... | Paris |
| Hall, Walter Henry..... | '23 ME..... | Wichita Falls |
| Hallaran, Raymond Patrick..... | '26 ME..... | Fort Worth |
| Hallman, Alvin Dorris..... | '26 ME..... | Wichita Falls |
| Hallman, Winnard Teague..... | C 1..... | Houston |
| Hamilton, Harry Blaine..... | Sp. AA..... | San Antonio |
| Hamilton, John Claire..... | '26 AA..... | San Antonio |
| Hamilton, Olan Harvey..... | '23 ChE..... | Waco |
| Hammett, Homer Cicero..... | '23 EE..... | Jacksonville |
| Hampton, Herbert Ellwood..... | '26 CE..... | Freeport |
| Hanberry, William Frederic..... | '25 ChE..... | Houston |
| Hancock, Austin Pruett..... | '26 CE..... | Fort Worth |
| Hancock, Clayton..... | Sp..... | College Station |
| Hancock, William Jennings..... | '24 ME..... | Paris |
| Haney, Oren Buel..... | '23 TE..... | Waco |
| Hanley, Robert Dellar..... | '25 ChE..... | Dallas |
| Hanna, Frank Raymond..... | '26 EE..... | Sherman |

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| Hanna, Frank W. | '24 ChE. | Georgetown |
| Hanson, Charles Wallace. | H 1. | Fort Worth |
| Harden, Jack Alford. | '26 EE. | Hamlin |
| Hardman, Benjamin Joseph | N 2. | Leonard |
| Hardman, John James Lee | '26 ChE. | Leonard |
| Hargrave, Malcolm Bernard. | '26 AA. | Dallas |
| Hargrove, Mark Welborn. | N 1. | Silsbee |
| Harkrider, Fred Vaughn. | '26 EE. | Abilene |
| Harlan, Sam. | '24 ChE. | Plainview |
| Harlow, Russell DeWitt. | '26 EE. | Texas City |
| Harper, Benjamin Preston. | '25 ME. | Dallas |
| Harpole, Earl Yale. | '24 ME. | Houston |
| Harrell, Willis Horace. | '24 Ag. | Claude |
| Harrington, Harold Ernest. | '24 EE. | Dayton |
| Harris, Charles Theodore. | '26 AA. | San Angelo |
| Harris, Hugh Kirkman. | '25 Ag. | Temple |
| Harris, James Buford. | C 2. | Blooming Grove |
| Harris, Robert Emmett. | '23 Ag. | Trinidad, Colo. |
| Harris, William David. | '24 CE. | Quitman |
| Harrison, Benjamin Franklin. | Sp. AA. | College Station |
| Harrison, Bryan Payne. | '26 AA. | Palmer |
| Harrison, Clifford Eli. | '26 AA. | Houston |
| Harrison, Robert Dittman. | '25 EE. | Alleyton |
| Harrison, Raymond John. | '25 Ar. | Waco |
| Hartman, William. | '25 CE. | Lockhart |
| Hartshorn, Wallace Baker. | '25 CE. | Fort Worth |
| Haslbauer, Herman Ferdinand. | '24 ME. | San Antonio |
| Hatfield, Theodore Cecil. | '25 EE. | Pottsboro |
| Hawkins, John Henry. | '26 Ag. | Foreman, Arkansas |
| Hawley, John Edward Merritt, Jr. | '26 CE. | Vernon |
| Hayes, Gerald Stickney. | '26 AA. | Dallas |
| Hayes, Jack Harper. | '25 AA. | Fort Worth |
| Haynes, Alex Haley. | '26 EE. | Fluvanna |
| Hays, Carl Davis. | '26 ChE. | Frisco |
| Hays, Herbert Rowland. | '26 AA. | Plano |
| Hays, Marvin. | '26 EE. | Mt. Pleasant |
| Haywood, Benjamin Whitaker. | '26 ChE. | Beaumont |
| Heald, C. Metza. | '24 Ag. | Anson |
| Heard, Herman Gordon. | '23 AA. | Bowie |
| Heartfield, Richard Cornish. | '23 Ar. | Baton Rouge, La. |
| Heath, Julian E. | '26 EE. | Munday |
| Heath, Norman Edward. | C 1. | Bowie |
| Hebel, Arthur Osgood. | C 1. | College Station |
| Hedgpeth, Armo Tye. | '26 Ag. | Ireland |
| Heed, Hobart Logan. | '26 EE. | Ardmore, Okla. |
| Hefner, Clarence Wycliffe. | '26 EE. | Pecos |
| Hefner, David Joel. | N 1. | Cuero |
| Hegemann, Otto Haenel. | '26 ME. | San Antonio |
| Heger, Frank Ferdinand. | Sp. Sci. | Shiner |
| Heidelberg, Charles Heartsill. | '26 Sci. | Marshall |
| Hellums, Clarence Miles. | '26 AA. | Belton |
| Helweg, Gottlieb Henry. | '26 Ag. | Shiner |
| Hembree, Joel Franklin. | '26 AA. | Paris |
| Henderson, David William. | '26 ChE. | Austin |
| Hendrick, Harold Eugene. | '26 ChE. | Paris |
| Hendrey, Waldersee Brazier. | Sp. Sci. | College Station |
| Hendry, Percy Thornton. | '26 AA. | Marshall |
| Henry, Charles Egbert. | '26 AA. | Navasota |
| Henry, Herman Kennedy. | '24 Ag. | Denison |
| Henry, Marion Bryan. | '23 TE. | Shelbyville |
| Hensarling, Philip Hawthorne, Jr. | '26 EE. | Bryan |
| Henslee, Selden Wood. | '25 EE. | Caldwell |
| Herrera, Rafael. | C 1. | Torreón, Mexico |
| Herrling, Frederick Charles. | '26 Ag. | Kurten |
| Herrmann, Frederick Davenport. | '25 Ag. | Galveston |
| Herron, William Wallace. | '26 AA. | Farmersville |

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| Herry, Benjamin Franklin | '25 CE. | New Braunfels |
| Hester, Blum Elsworth | '25 Ar. | Crockett |
| Hester, Stephen Garvin | '24 Ag. | Thomas |
| Hiatt, Armstead Miller, Jr. | '25 AA. | Vernon |
| Hickman, James Butler | Sp. Ag. | Bryan |
| Hickman, Roy | '25 Ag. | Rising Star |
| Hicks, Louis Sidney | '25 EE. | Conroe |
| Higginbotham, Mack Whiteside | '25 CE. | Alvin |
| Higginbotham, Wilbur | '26 ME. | Dallas |
| Hightower, Jack Trimble | '26 ME. | Smithfield |
| Hildebrand, Jacob Russell | '26 ChE. | San Antonio |
| Hinman, Adolph Edwin | '25 CE. | San Luis Potosi, Mexico |
| Hinton, John O. | '26 EE. | Ennis |
| Hipp, William Samuel, Jr. | '26 CE. | Houston |
| Hite, Albert William | '26 CE. | Del Rio |
| Hobbs, Edward | '26 Ag. | Rice |
| Hobbs, Louis Edward | '26 Ag. | San Antonio |
| Hockaday, Harold Kerr | '25 AA. | Cleburne |
| Hodge, John Frederick | '25 ME. | Hereford |
| Hodges, Cecil David | '26 Ag. | Granger |
| Hoerster, Howard Ernest | '26 CE. | San Antonio |
| Hogue, James Albert | '26 ME. | Paris |
| Hohn, Walter Louis | '26 Ag. | Nordheim |
| Holder, John Alma | '25 ChE. | Ardmore, Okla. |
| Holekamp, Otto C. | '24 EE. | Comfort |
| Holle, Henry A., Jr. | Sp. Sci. | Brenham |
| Holligan, Alva Monroe | '26 ME. | Bryan |
| Holloway, Joe Philip | '26 CE. | Forney |
| Hollowell, Glenn Alonzo | '23 EE. | Albany |
| Holman, Berkeley Natt. | '26 ChE. | Bay City |
| Homann, Richard Edward | '26 Ag. | San Antonio |
| Honaker, Henry Richard | '26 AA. | Farmersville |
| Hood, Edward Allan | '26 AE. | Inez |
| Hood, Walton Donnie, Jr. | '26 AA. | San Antonio |
| Hooks, John James | '26 AA. | Sour Lake |
| Hooks, Robert Harrell | '26 TE. | Clarksville |
| Hooks, Wallace Monroe | '26 AA. | Hillsboro |
| Hooper, Murray Robertson | N 1. | Bryan |
| Hooper, Robert Elbert | '25 Ag. Eng. | Plainview |
| Hope, Washington Byron | '23 Ag. | Leonard |
| Hopkins, Abner Crump | '26 Ar. | San Antonio |
| Hopkins, Bernard Huey | '25 Ag. | Taylor |
| Hopkins, Marks Warfield | Sp. AA. | Dallas |
| Hord, J. T. | N 2. | McGregor |
| Horn, William Christian | '23 AE. | Bryan |
| Horton, Carey Quinn | H 1. | Bryan |
| Horton, Paul Ende | '25 EE. | Greenville |
| Hotchkiss, Oscar Theodora, Jr. | '24 ChE. | Bay City |
| Hotchkiss, Stewart Theodore | '26 CE. | Humble |
| House, Jack Barrington | '26 ME. | Greenville |
| Houston, Thomas Lee | '26 ChE. | Corsicana |
| Howard, Jesse Lawrence | '26 EE. | Devine |
| Howard, Marshall Ray | '25 ChE. | Ardmore, Okla. |
| Howard, Robert Albert | '25 ChE. | Ardmore, Okla. |
| Howdeshell, Allen Dale | '25 EE. | Sherman |
| Howell, John Burl | '25 AA. | Coleman |
| Hubby, Turner Erath, Jr. | '25 AA. | Waco |
| Huber, Keith Murell | Sp. AA. | San Antonio |
| Huber, Kenneth Paul | Sp. AA. | San Antonio |
| Hubert, Raymond Ireland | '26 AA. | Coleman |
| Hudson, Charles Edward | '24 Ag. | Pine Bluff, Ark. |
| Hudson, Delma | '23 AA. | Mart |
| Huebner, Edwin Arthur | '26 EE. | Shiner |
| Huey, Paul | Sp. Ag. | Cleburne |
| Huff, Arthur Weber | '25 AA. | Raymondville |

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| Huff, Calvin Ralph. | '24 EE. | Raymondville |
| Huffman, James William. | '26 ChE. | Bryan |
| Hughes, Marion Bell. | '26 CE. | Wills Point |
| Hughes, William Hobson. | '23 Ag. | Lyford |
| Hugon, Lee Russell. | '23 EE. | Gainesville |
| Hultgren, Hilmer Carl. | '24 EE. | Ingleside |
| Humphrey, John Gill, Jr. | N 1. | Wells |
| Hunnicutt, J. R. | Sp. Sci. | Marlin |
| Hunt, Irvin Glenn. | '26 Ar. | Lubbock |
| Hunt, James Wick. | '26 EE. | Victoria |
| Hunt, Robert L. | '26 AA. | Omaha |
| Hunt, Jim. | '25 AA. | Dallas |
| Hunter, Ernest Edward. | '26 ME. | Lott |
| Hunter, Homer A. | '25 CE. | Fort Worth |
| Husbands, Louis Tarlton. | '26 AA. | Greenville |
| Hutchins, Ralph Willard. | '26 Ag. | Grandview |
| Hutchison, Theodore Julian. | '25 Ag. | Waco |
| Hutchison, Wallace Russell. | '24 Ag. | Tylia |
| Hyland, George Gilbert. | '24 ChE. | College Station |
| Hyland, Kathryn. | Sp. | College Station |
| Icaza, Florencio. | '25 Ag. | Panama, Panama |
| Idol, Jack C. | '26 Ag. | Coleman |
| Ingram, Leonidas Cartwright, Jr. | '26 CE. | Terrell |
| Ingram, William H. | '23 EE. | Terrell |
| Irvin, Barlow. | '26 AA. | San Antonio |
| Irvin, Francis Vernon. | '26 Ag. | Bartlett |
| Irwin, Arthur James. | Sp. CE. | Galveston |
| Irwin, Kenneth William. | '26 ME. | Teague |
| Iselin, Herman Lewis. | '26 CE. | Henrietta |
| Jackson, Alvin Handley. | N 2. | Gail |
| Jackson, Carter Harrison. | '26 ChE. | Dallas |
| Jacobson, John Edward. | '25 CE. | Texas City |
| Jaggi, Frederick Putnam. | '24 Ag. | San Antonio |
| James, Charles Guy. | '26 EE. | Conroe |
| Jameson, Baker Euing. | '26 AA. | Garland |
| Jameson, Elliott Carroll. | '26 Ag. | Millican |
| Jarvis, Billy. | '25 AA. | Spearman |
| Jennings, Harold Cozart. | '26 EE. | Houston |
| Jennings, Maurice Randolph. | '26 AA. | Martindale |
| Jennings, Raymond Marion. | '26 Ar. | Waco |
| Jensen, John George. | '26 ME. | Donna |
| Johns, Bert. | '26 EE. | Round Rock |
| Johnson, Allen. | '25 EE. | Palestine |
| Johnson, Clyde. | '26 AE. | Jolly |
| Johnson, Charles Basil. | '26 Ag. | Uvalde |
| Johnson, Charles Wesley. | '26 ME. | Amarillo |
| Johnson, Ernest Clayton. | '24 AE. | Tolar |
| Johnson, Earle Winston. | '26 ME. | Dallas |
| Johnson, Harold Jefferson. | '24 ChE. | Chickasha, Okla. |
| Johnson, Howard Richard. | '25 Ar. | Paris |
| Johnson, John Henry. | Sp. Ag. | Galveston |
| Johnson, Leartus Robert. | '26 CE. | Fort Worth |
| Johnson, William Clarence. | '26 Ag. | Islitas |
| Johnson, William Dunlap. | '25 AA. | Beaumont |
| Johnston, John Duard. | '26 AA. | Kingsville |
| Johnston, Ted. | Sp. Ag. | San Angelo |
| Jolliff, Lindsey Gofford. | '23 ME. | Dallas |
| Jones, Adele. | Sp. | College Station |
| Jones, Alva McCoy. | '26 AA. | Honey Grove |
| Jones, Beecher Calvin. | Sp. ChE. | College Station |
| Jones, Berry Edward. | '26 AA. | Sherman |
| Jones, Charles Hal. | '25 TE. | Temple |
| Jones, Clifford Lamar. | '26 CE. | Temple |
| Jones, Charlie Scott. | '26 ME. | Temple |

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| Jones, Ford Douglas | '26 EE | Del Rio |
| Jones, J. C. | '26 ME | Lufkin |
| Jones, John Daniel | '26 VM | Bryan |
| Jones, John Paul | '26 AA | Pilot Point |
| Jones, Newton Watts | '23 Ag | Windthorst |
| Jones, Paul Beverly | C 1 | Hillsboro |
| Jones, Thomas Lewis | '23 EE | Forney |
| Jones, Vernon Forest | '25 Ag | Glen Cove |
| Jones, Walter Telfair | '26 Ag | Dallas |
| Jordan, Gerald Whitaker | '26 EE | Lampasas |
| Josserand, Pierre Levi | '26 ME | Galveston |
| Joyner, Arthur Lee | '25 EE | Gainesville |
| June, Malcolm McClenthen | '25 ME | College Station |
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| Kalb, George Montgomery | '25 ME | San Antonio |
| Karnes, William Henry | '26 Ag | Sonora |
| Kasper, Charles | '25 ChE | Shiner |
| Kasper, John Edward | '26 AA | Shiner |
| Kaufman, Joe M. | '26 CE | Dallas |
| Kean, Edward Everett | Sp. ME | Cisco |
| Keathley, John A. | '25 Ag | Olney |
| Keen, Elza McDonald | '26 EE | McKinney |
| Keen, Lowell Stockton | Sp. AA | Kerens |
| Keeton, Thaddeus Elton | '23 EE | Devine |
| Keeton, William Edward | '26 EE | Jewett |
| Keienburg, John William, Jr. | '26 AA | New Braunfels |
| Keith, Darwin Howell | '26 Sci | Fort Worth |
| Kelley, Alvin Elwood | '26 EE | Lockhart |
| Kelley, William Caswell | '26 CE | Henrietta |
| Kelly, Elbert Malcolm | '26 EE | Electra |
| Kelly, Frank Stephen, Jr. | '26 EE | Marshall |
| Kendrick, Leighton Lorain | '25 Ag | Moody |
| Kennedy, Loyd Robert | '26 AA | Fort Worth |
| Kennedy, Meb | '26 Ar | Tyler |
| Kennedy, Robert Marion | '26 EE | Dallas |
| Kennedy, Victor Runyan | '25 Ag | Crockett |
| Kennington, Clyde Britton | '26 EE | Devine |
| Kent, George Frederick | '26 EE | Havana, Cuba |
| Kerr, George Spears | '25 EE | Thurber |
| Kerr, Horace Scott | '23 CE | Amarillo |
| Kerr, James Fielder | '23 CE | Thurber |
| Kerr, William Ray | '26 AA | Havana, Cuba |
| Ketchum, Everard Terrell | '25 AA | Navasota |
| Ketterson, John Boyd | '24 ChE | Houston |
| Killian, Martin Burger | '26 ChE | Alvord |
| Kimball, Otis Harold | '25 Ag | Alpine |
| Kimbrough, Morton William | '23 EE | Weatherford |
| Kindle, John Madison | '25 ChE | McKinney |
| King, Albion Stirling | '26 ME | Lake Charles, La. |
| King, James Louis | M 1 | Jefferson |
| King, Randolph Sidney | '26 CE | Boerne |
| King, William Casey | '25 TE | Denison |
| Kirkpatrick, James Alvis, Jr. | '26 AA | Reagan |
| Kirkpatrick, Thagard Keith | '25 EE | Reagan |
| Kirkpatrick, William Davis | '23 Ag | Lewisville |
| Kishi, Taro | '26 EE | Terry |
| Kittlitz, Theodore August | '26 EE | Waco |
| Knickerbocker, Herman Willis, Jr. | Sp. Ag | Marlin |
| Knox, Edward Warren | '23 EE | San Antonio |
| Knox, Kent Bronough | '26 Ar | Lubbock |
| Knox, Roland Ferguson | '26 CE | Iowa Park |
| Koehler, Elmo Henry | '26 EE | Yorktown |
| Koenig, Edgar August | '25 ME | Bryan |
| Koenig, Joseph | '26 EE | El Campo |
| Koerth, George Emil | '26 ChE | Yoakum |
| Kornegay, Clifford Newton | '26 AA | Winters |

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| Kraemer, Joe, Jr. | '26 Ar. | Fort Worth |
| Kraft, Frederick M. | '25 AA. | Dalhart |
| Krause, Milton Waldo. | '25 EE. | La Grange |
| Krueger, Gustav Robert | '25 Ar. | San Antonio |
| Kubala, John Frank. | '24 EE. | Granger |
| Kuehn, Edwin Erich. | '24 EE. | Taylor |
| Kuempel, Louis Gilbert. | '25 EE. | Pflugerville |
| Kunkel, Carl Mitchell. | '24 ME. | San Antonio |
| Kunz, August George. | Sp. AE. | College Station |
| Kurtz, Lawrence A. | '23 EE. | College Station |
| Kuykendall, William Isaac. | '25 Ag. | Buda |
| Kyle, Lillie Bess. | Sp. | College Station |
| Kyle, Sidney Mac | '26 AA. | Pecos |
| Lace, Edwin Harrison | C 1. | Burleson |
| Lace, William Russell. | '25 Ag. | Burleson |
| Lackie, Trenholme Wellesley. | '26 CE. | Paris |
| Lackner, Adolph Quensell. | '26 Sci. | Houston |
| Lacy, Earl Olin. | '26 AA. | Hondo |
| Lacy, John Alexander | '26 ME. | Dallas |
| Laird, Jack Harlan. | '26 EE. | Kilgore |
| Lamb, David Ewing. | C 2. | Detroit |
| Lambert, Ward. | '26 Ag. Eng. | Teague |
| Lamkin, James Boyd. | '23 ME. | Huntsville |
| Lancaster, Jesse Cornelius. | '25 Ar. | Marshall |
| Lancaster, Paul Murray. | '26 Ag. | San Marcos |
| Lane, Hermon William. | '26 ME. | Jacksboro |
| Lansford, John Dile, Jr. | '26 AA. | Greenville |
| Langlois, Walter Seymoure. | '26 EE. | Seguin |
| Langlotz, Wilburn Edward. | '26 ME. | Fayetteville |
| Lanham, Samuel Willis Tucker. | '26 Ag. | Waco |
| Langford, Guy Earl. | '26 EE. | Crockett |
| Larkin, James Charles. | '25 IE. | Bremond |
| Larkin, Paul Murray. | C 1. | Dallas |
| LaRue, Frank Everett. | '26 AA. | Athens |
| Laseter, Fred. | '25 Ag. Eng. | Hope, Arkansas |
| Laseter, Webb, Jr. | '26 CE. | Hope, Arkansas |
| Laughlin, Loran. | '26 EE. | San Angelo |
| Laursen, L. K. | Sp. AE. | College Station |
| Lawrence, Holly Moody, Jr. | '26 Ag. | Longview |
| Lawther, Lynn Vernon. | '26 AA. | Dallas |
| Lazenby, Otto Robert. | '25 AA. | Waco |
| Ledbetter, John Jackson. | '25 CE. | Blytheville, Ark. |
| Ledford, Paul. | '26 Ag. | San Benito |
| Lee, Fitzhugh. | '25 Ag. | Eckert |
| Lee, James Alexander. | '25 EE. | Houston |
| Lee, Samuel Dwight. | '24 EE. | Elizabeth, La. |
| Leiper, Sam Edward. | '23 Ag. | Weatherford |
| LeLaurin, Victor Gheral. | '24 ME. | San Antonio |
| LeMay, Victor. | '25 Ar. | Fort Worth |
| Lester, Harry Vanderburgh. | '25 EE. | Dallas |
| LeSturgeon, Edward Garrison. | '23 ChE. | San Antonio |
| Leuschner, Robert Lee. | '25 AA. | Waco |
| Leuty, Ben David. | '24 CE. | Justin |
| Levin, Gus. | '26 Sci. | Brenham |
| Lewis, Eugene Thomas. | '26 EE. | Fullerton, La. |
| Lewis, George McKoy. | '24 AA. | Fort Worth |
| Lewis, Henry LaFayette, Jr. | Sp. Sci. | Navasota |
| Lewis, Marlin Douglas. | C 2. | Thorndale |
| Lewis, Paul Walter. | '26 CE. | Kaufman |
| Leyendecker, Michael Maurice. | '26 CE. | Laredo |
| Liebhafsky, Herman Alfred. | '26 ChE. | Shiner |
| Lightner, Larry Friley. | '26 AA. | Mexico City, Mex. |
| Liles, Homer McFarlin. | '24 AA. | San Benito |
| Lilienstern, Oscar Clayton, Jr. | '26 Ag. | Mt. Pleasant. |
| Lindley, Herman Austin. | C 1. | Mertzon |

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| Lindsey, Clarence Cross | '25 AA | Dallas |
| Lindsey, Glen Aven | '23 Ag | Davilla |
| Lipscomb, Earl Wagner | '26 EE | Amarillo |
| Lipscomb, Patrick Cleburne, Jr. | '25 ME | Trinity |
| Lipsitz, Bertram Edwin | '26 AA | Waco |
| Littlejohn, Lacy Welborn | '23 Ag | Seagoville |
| Livingston, Elmo Clarence | '23 ChE | Coleman |
| Loessin, Wilburn Bernard | '26 Ag | La Grange |
| Loew, Gilbert Edward | '26 EE | Beaumont |
| Loftus, Thomas Francis, Jr. | '26 ME | Houston |
| Loggins, Levis Raymond | '26 Sci | Hempstead |
| Lokras, Vinayak Narayan | '23 ChE | Saugor, C. P., India |
| Long, John Ollen | '26 EE | Lubbock |
| Long, Joseph Thurman | '23 AA | Houston |
| Long, William Buford | '25 ChE | Fort Worth |
| Longino, Alvin Charles | '26 Ag | Ingleside |
| Longino, Marvin George | '26 Ag | Ingleside |
| Longley, Andrew Jackson | '26 Ag. Eng. | Westover |
| Longley, James Farr | '24 EE | Westover |
| Longserre, Ivan Rudert | '26 EE | Bardwell |
| Lord, George Joseph | '23 Ag | Cheapside |
| Lord, Guy Walker | '24 ChE | Hebron |
| Lothrop, Reuben Knight | '26 AA | Marshall |
| Love, Benjamin Samuel | '23 CE | Franklin |
| Love, Charles Lawrence | '26 EE | Corsicana |
| Lowe, Allen Pryor | N 2 | San Antonio |
| Luke, Henry J. | N 1 | Muenster |
| Lusby, Fletcher Homer | N 1 | Sawtelle, Calif. |
| Lyles, E. L., Jr. | '26 Ag | Bunkie, La. |
| Lynch, Jack | '25 AA | Como |
| Lyons, Albert Duard | '26 EE | Runge |
| Lyons, John Fabius Burton | '25 AA | Fort Worth |
| McAllister, Thomas Ulysses | '23 ME | Fort Worth |
| McAteer, Robert Henry | '26 EE | Lott |
| McBurnett, Earl William | '26 ChE | Houston |
| McCarter, Thomas Alexander | '24 AA | Galveston |
| McCarty, John Lee | '26 Ag | Briggs |
| McCarty, Orin Philip | '26 EE | San Antonio |
| McCauley, George Walton | '25 EE | Waco |
| McChesney, Edward Rowel | '25 CE | San Antonio |
| McChesney, William Hull | '25 CE | San Antonio |
| McClelland, William Henry | '23 AA | Gilmer |
| McClellen, Elias Baxter, Jr. | '25 ME | Ague Dulce |
| McClinton, James William | C 1 | Houston |
| McCluney, James Thomas | '26 EE | Forreston |
| McClure, John Granville, Jr. | '26 TE | Dallas |
| McClurg, Willard Arthur | C 1 | Greenville |
| McColgin, James Edward | '26 ChE | Beaumont |
| McConnell, Harry Hall | '26 Ag | Jacksboro |
| McConnell, Mack | '23 Ag | Crockett |
| McCoy, John Milton | '26 CE | Dallas |
| McCracken, William Foss | '26 EE | Kingsville |
| McCready, Robert De Clark | '25 Ar | Houston |
| McCulloch, Henry Eustace | Sp. AA | Comanche |
| McCullough, John Pinkney | '24 Ag | Bryan |
| McCullough, Wilmer Raymond | '25 VM | Bryan |
| McCutcheon, Beauregard, Jr. | C 1 | Fort Davis |
| McCutcheon, Bennett Brazil, Jr. | '26 Ag | Fort Davis |
| McDaniel, George N., Jr. | '25 CE | Georgetown |
| McDaniel, William Robert | '26 TE | Marquez |
| McDonald, Herschel Case | '25 CE | Dallas |
| McDonald, Julius Hassler | '23 Ag | College Station |
| McDonald, Roland | '25 CE | Dallas |
| McDougal, Marshall Simeon | '26 EE | San Antonio |
| McDougal, Tom Henry | '26 Ag | Tyler |

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| McElroy, Hazeal Milton. | '23 Ag. | Belton |
| McElroy, Walter D. | '26 AA. | Vernon |
| McFadden, Edgar Clayton. | '24 TE. | Pine Bluff, Ark. |
| McFarland, John Calvin. | '23 Ar. | Boerne |
| McGee, Allie Granville. | '26 AA. | Plainview |
| McGee, Frank Starr. | '24 AA. | Marshall |
| McGee, James Samuel. | '26 Ag. | Fort Worth |
| McGinney, James Lamar. | '26 Ar. | Houston |
| McGlaun, Weldon. | '26 ME. | Sweetwater |
| McGlothing, Adolph Vincent. | Sp. AE. | Nixon |
| McGuire, Joseph Dickson. | '26 EE. | Austin |
| McIver, Alexander William. | '25 Ag. | San Antonio |
| McKay, Elgie Smith. | N 1. | Park Springs |
| McKee, Modrel Goodson. | '26 AA. | Mount Selman |
| McKenzie, John George. | '26 EE. | Ennis |
| McKimmey, Allen Aubrey. | '25 Ag. | Comanche |
| McKinnon, Thomas Jefferson, Jr. | '26 EE. | Livingston |
| McKnight, Cyrus. | '26 EE. | Pampa |
| McKnight, Thomas William. | '23 CE. | Hallettsville |
| McKoy, Emory Clifford. | '24 CE. | Rockwall |
| McMillan, William Garrett. | '23 Ar. | Calvert |
| McMordie, Frank Foster. | '26 Ag. | Canadian |
| McMurry, Stonewall Reynolds. | '26 ChE. | Spearman |
| McNamara, Francis Leo. | '26 TE. | Austin |
| McNaughton, Alexander Hamilton. | '25 ChE. | Palestine |
| McNeel, Albert Maverick. | '25 CE. | San Antonio |
| McNelly, Charles Bowman. | '23 CE. | Uvalde |
| McNess, George William. | '26 EE. | Nacogdoches |
| McNiel, Hugh Robinson. | Sp. AE. | Floresville |
| McSwain, Ross Francies. | '24 Ag. | Wellborn |
| MacDaniel, James Hunter. | '25 AA. | Floresville |
| MacDonnell, Burleson. | '26 Ag. | San Antonio |
| MacFarland, George Orval, Jr. | '26 Ar. | Bryan |
| Mackechney, Harold Graham. | '26 Ag. | Wichita Falls |
| Mackensen, Otto. | '26 Ag. | San Antonio |
| Macy, Walter Scott. | '26 AA. | Harlingen |
| Magee, Bruce Vann. | '26 EE. | Kerrville |
| Magnuson, Nels Conrad. | '26 Ag. Eng. | Lyford |
| Magruder, Alexander Dalton. | '25 AA. | San Antonio |
| Majors, Jasper Redmond. | '25 CE. | Burkburnett |
| Malcolm, Harold Otis. | '24 ME. | Oklahoma City, Oklahoma |
| Mallory, John Scott, Jr. | '26 ChE. | Dallas |
| Mallow, Alton Watson. | '26 AA. | Sanger |
| Mallow, Ramon. | '23 Ag. | McKinney |
| Maloney, Joseph Henry. | '25 AA. | Bryan |
| Manly, J. Milton. | H 1. | Cotulla |
| Mann, Jeff Edward. | '26 EE. | Von Ormy |
| Manning, Guy Benjamin. | '26 EE. | Rusk |
| Manning, William Woffard. | '26 EE. | Spur |
| Marcus, Lawrence Barry. | '26 ME. | Wichita Falls |
| Marcy, Robert Sidney. | '26 EE. | Lander, Wyoming |
| Marrs, George Ralston. | '24 ME. | Galveston |
| Marsh, Gay Jacques. | '24 EE. | Livingston |
| Marshall, Dillard Oneal. | Sp. Ar. | Fort Worth |
| Martin, Albert Dow. | Sp. EE. | College Station |
| Martin, Frank O. | Sp. AA. | College Station |
| Martin, George Edward. | '23 Ag. Eng. | College Station |
| Martin, James Duncan, Jr. | '26 AA. | Bryan |
| Martin, Lang Collings. | N 1. | Dallas |
| Martin, Paschal Eugene. | Sp. Ag. | McKinney |
| Martin, Robert Joseph. | '26 EE. | Palestine |
| Martin, Vernon. | '25 Ag. | Bryan |
| Martinez, Jose. | '25 Ag. | Hda. de Sta Engracia, Tamps, Mexico |

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| Mason, Clinton Carmack | '23 Ag | College Station |
| Massenburg, William Horace | '26 CE | Cleburne |
| Massenburg, Walter Wade | '26 CE | Cleburne |
| Massey, Jesse Clifton | '25 CE | Weatherford |
| Mast, Claude Albert | '25 EE | Dallas |
| Mast, Hollis Tucker | '24 AA | Nacogdoches |
| Matchett, Robert Kyle | '24 Ag | Bay City |
| Matern, Carl Getolius | '26 Ag | Marble Falls |
| Mathis, Prentiss Lamar | Sp. Ag | San Antonio |
| Matthews, William H | Sp. Ag | College Station |
| Maufrais, Henry Louis | '25 TE | Austin |
| Maurin, Robert David | '26 EE | Houston |
| May, Clyde Van Cleave | '26 ChE | Port Arthur |
| Mayer, Abe, Jr. | C 1 | San Angelo |
| Mayfield, Jack | '25 AA | Corpus Christi |
| Mayfield, John Chester | '23 AA | Huntsville |
| Mayfield, Lee | '26 CE | Hughes Springs |
| Mayfield, Prentiss Buchanan | '26 ChE | Abilene |
| Mayfield, Ross Freeman | '26 AA | Fort Worth |
| Mayo, James Freeman | '26 EE | Bonham |
| Mecham, George Peyton | '26 AA | Cleburne |
| Medbery, Clinton Amos | '24 ChE | College Station |
| Megarity, Ceborn H. | '23 TE | Waco |
| Meisenheimer, Freddie Edward | M 1 | Jefferson |
| Meitzen, Joseph Bernard | '25 AA | San Antonio |
| Melson, Marvin Andrew | '26 Ag | Austin |
| Melton, Edwin Clyde | '26 Ar | Houston |
| Menke, Theodore Meyer | '26 Ag. Eng. | Hempstead |
| Merchant, Dorris Henry | '23 ChE | Giddings |
| Meredith, Joseph Huntley | '23 ChE | Waxahachie |
| Merrett, Roy | '26 AA | Mt. Pleasant |
| Metzger, Randolph Fredrick | '25 ME | Hondo |
| Meyer, Harry Marton | '26 Ag | Flatonio |
| Meyer, Leslie Joe | '25 Ag | Ellinger |
| Miers, Harris Wood | '26 Sci | Dallas |
| Miers, Wesley Scott | '23 EE | Hearne |
| Milam, Ralph Blalock | '26 Ag | Uvalde |
| Milburn, Jasper Newton | '26 ME | Palo Pinto |
| Milburn, Kennedy Abbott | '26 Sci | San Antonio |
| Miles, John Henry | '24 EE | Marlin |
| Milford, Thomas Henry | '26 CE | Honey Grove |
| Milhollin, Robert Mabry | '23 Ag | Lipan |
| Miller, Berryman Al | '26 AA | Alto |
| Miller, Hayden Lee | '26 ME | San Antonio |
| Miller, Isadore | '25 ME | Fort Worth |
| Miller, Joe | '25 ChE | Corsicana |
| Miller, John Keesey | '25 ME | Fort Davis |
| Miller, Robert William | '26 CE | Weatherford |
| Miller, T. A. | '26 EE | Abilene |
| Miller, Thomas Louie | '24 AA | Coleman |
| Milligan, Robert Joel | '24 CE | McKinney |
| Mimms, Marvin Hotchkiss | '26 AE | Marlin |
| Mims, Staley Wood | '25 CE | Palestine |
| Mings, John Mitchell | '26 Ar | Big Sandy |
| Mingus, Odis Simpson | '23 ChE | Hico |
| Mires, Arden Argust | '26 Ag | Taft |
| Mitcham, Ralph Alexander | '26 EE | Eustace |
| Mitchell, Clarence D. | N 1 | Bryan |
| Mitchell, Festus Wilson | '26 Ar | Abilene |
| Mitchell, Hugh Chester | Sp. AA | Lolita |
| Mitchell, Harry Murry | '26 EE | Sherman |
| Mitchell, Ralph Howard | '26 AA | College Station |
| Mitchell, Wilbur Clifford | '23 ChE | College Station |
| Mogford, Alfred Christian | '23 Ag | Streeter |
| Mogford, Harry | '26 Ag | Fredericksburg |
| Moguel, Fausto Roberto | '25 Ag | Mexico City, Mex. |

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| Mohler, L. Joe..... | '26 EE..... | Cameron |
| Monagin, John Albion..... | '24 Ag..... | Uvalde |
| Montgomery, Curtis Leiland..... | '26 AA..... | Comanche |
| Montgomery, Vol Hardwicke..... | '24 CE..... | Muskogee, Okla. |
| Montgomery, William Alexander..... | '23 ME..... | Galveston |
| Montgomery, William Burnside..... | '26 AA..... | Pilot Point |
| Moon, Frank Homer..... | '26 Ag..... | Kosse |
| Moore, Arthur Joseph..... | '26 ME..... | Mission |
| Moore, Aubry Lee..... | '23 TE..... | Hubbard |
| Moore, Claud Alfred..... | '26 IE..... | Blanket |
| Moore, Carl William..... | '25 Ag. Eng..... | Cisco |
| Moore, Emmett Herman..... | '23 ChE..... | Fort Worth |
| Moore, Fred William..... | Sp. IE..... | Clifton |
| Moore, Harry Lyle..... | '26 Ar..... | Hope, Arkansas |
| Moore, James Leslie, Jr..... | '26 Ag..... | Lott |
| Moore, Oran Horace..... | '26 ME..... | Fort Worth |
| Moore, William Angus..... | '25 ChE..... | Dallas |
| Morey, Arthur Paine..... | '25 CE..... | Sedalia |
| Morgan, Chester Lee..... | '25 ME..... | Leesville, La. |
| Morgan, Ellis Hamilton..... | '23 CE..... | Houston |
| Morgan, Emmett Kent..... | Sp. IE..... | Kirbyville |
| Morgan, John Edward..... | '24 Ag..... | La Grange |
| Morgan, Robert Lee, Jr..... | '23 ChE..... | Leesville, La. |
| Morgan, S. S..... | Sp. AE..... | College Station |
| Morris, Asbury Bratten..... | '26 Ag..... | Cedar Hill |
| Morris, George Merle..... | '24 Ag..... | Winnboro |
| Morris, Harry Forrest..... | '24 Ag..... | Forreston |
| Morris, John Dewie..... | '26 AA..... | Vernon |
| Morris, Ray Andrew..... | Sp. Ag..... | Decatur, Ga. |
| Morris, Wallace John..... | C 1..... | Bend |
| Morris, Gilmer Airs..... | '26 AA..... | Kerrville |
| Morrow, William D..... | '23 EE..... | Reids, La. |
| Morton, Fred..... | '25 ME..... | Marfa |
| Morton, John Vester..... | '26 CE..... | Dumas |
| Moses, Robert Lewis..... | '23 Ag..... | McKinney |
| Mosley, Wilburn Wilson..... | '25 Ag. Eng..... | Temple |
| Mosteller, Walter A..... | '23 EE..... | Lampasas |
| Mowlam, James Arthur..... | '25 AA..... | Corsicana |
| Mueller, Irvin A..... | '25 AA..... | Kenedy |
| Mueller, Leon John..... | '26 ME..... | West Columbia |
| Muenzenberger, Carl..... | '26 Ag..... | San Antonio |
| Muller, Albert Burke..... | '24 EE..... | Brackettville |
| Muller, Jerome August..... | '25 AA..... | Livingston |
| Muller, Marcus Herman..... | '26 EE..... | Brackettville |
| Mullican, J. T. Ivor..... | '24 CE..... | Cooper |
| Mullins, Benjamin Franklin Kelso..... | Sp. CE..... | College Station |
| Muncey, Claude Alexander..... | '26 Ag. Eng..... | Corpus Christi |
| Muncey, James Arthur..... | '23 Ag. Eng..... | Corpus Christi |
| Munday, J. M..... | '26 Ar..... | Amarillo |
| Munn, Carder Cole..... | '26 EE..... | Bertram |
| Munn, Carl G..... | '25 AA..... | Sterling City |
| Munnerlyn, William Ford..... | '26 AA..... | Waco |
| Murchison, Lewis Nance..... | '25 AA..... | Grapeland |
| Murphy, Herbert Adrian..... | '24 EE..... | Mexia |
| Murrell, J. T..... | '26 CE..... | Valley View |
| Myers, Alfred..... | '26 ME..... | San Antonio |
| Myers, James Vernon..... | '24 AA..... | Booth |
| Myers, Philip..... | '25 Ag..... | Floresville |
| Myers, William James..... | '25 ME..... | Dallas |
| Nairn, Kenneth Lee..... | '26 ME..... | Houston |
| Neal, Charles William..... | '26 VM..... | San Antonio |
| Neblett, Thomas Barbee..... | '26 Ag..... | Forrest City, Ark. |
| Needham, Reginald Lee..... | Sp. Sci..... | Lorena |
| Neely, Roy Griffith..... | '24 AA..... | Barstow |
| Neitsch, Fred Ernest..... | '24 EE..... | Giddings |

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| Nelson, Greer B. | '24 Ag. | Greenville |
| Nelson, Paul Allen. | '26 CE. | Pittsburg |
| Nelson, Samuel E. | '26 AA. | Miami |
| Newell, William Houston. | Sp. Ar. | Miami, Florida |
| Newman, Eugene Harris. | '26 EE. | Garland |
| Newman, George Nathan. | M 1. | Garland |
| Newman, Newell Nathan. | '26 Ag. | Frisco |
| Newnam, Lee Petrich. | '24 Ar. | San Antonio |
| Newport, Fred Carl. | '24 Ag. | Tomahawk, Ark. |
| Newton, Louie Marquis. | '26 EE. | San Antonio |
| Newton, Ross J. | '26 Ag. | Cross Cut |
| Nicholson, William Stuart. | '24 ME. | Houston |
| Nimitz, Ernest Holland. | '23 Ag. | San Angelo |
| Nixon, John Phillip. | C 2. | Hondo |
| Nixon, Robert Fulton. | '26 ME. | Hondo |
| Nixon, Sam Ab. | '24 CE. | Calvert |
| Noble, Stephen Austin, Jr. | '25 AA. | Greenville |
| Noland, Charles Stewart. | '26 EE. | Abilene |
| Norris, Fred Boyd. | '24 AE. | Hubbard |
| Norris, Loyd Viron. | '26 CE. | Wichita Falls |
| Norris, Warren Guy, Jr. | '26 EE. | Childress |
| Norton, Philip Gardiner. | '26 Ar. | Fort Worth |
| Norwood, Shields, Jr. | '25 AA. | Austin |
| Noster, Clarence Wilfred. | '23 ME. | San Antonio |
| Novosad, Eddie John. | '26 AA. | East Bernard |
| Nowotny, Erhard Peter. | '26 AA. | New Braunfels |
| Nunn, John Emmitt. | '26 Ag. | Bonham |
| Oaks, Robert Quincy. | '26 AA. | Dallas |
| O'Brien, Carl E. | '26 EE. | Dallas |
| O'Callaghan, John. | '24 ME. | Dallas |
| Ochterbeck, Walter Hoyt. | '26 CE. | Campos, E. do Rio, Brazil |
| Ochterbeck, Wilbur John. | '26 Ag. | Campos, E. do Rio, Brazil |
| Odor, Ernest Holt. | '26 EE. | Munday |
| Ogletree, James Dupree. | '26 Ag. | New Braunfels |
| Old, William Donald. | '24 EE. | San Antonio |
| Olds, Frederick Charles. | '26 CE. | Abilene |
| Olinger, Olaf Samuel. | '26 ME. | Garland |
| Olivarri, Robert Dabney. | '25 Ag. | San Antonio |
| Olivarri, William Henry. | '26 Ag. | San Antonio |
| Olsen, Carl Edward. | '23 ME. | Clifton |
| Orme, William Phillip. | Sp. Ag. | Waco |
| Orms, Texas. | Sp. | Bryan |
| Orr, Albert Stanford. | '24 ChE. | Waco |
| Orr, William Bassett. | '25 Ag. | Dallas |
| Orth, Robert F. | '23 ME. | San Antonio |
| Owen, Herbert Elmer. | '26 CE. | Waco |
| Owen, Robert Kyle. | '25 CE. | Gainesville |
| Owens, Clifford Boyce. | '26 Ag. | Forney |
| Owens, George Loving. | '26 Ag. | Weatherford |
| Owens, George Washington. | N 1. | Crowell |
| Owens, Roy Morris. | '24 Ar. | Bonham |
| Pace, John McIver. | '26 TE. | Haskell |
| Painter, John Harry. | '26 AA. | Smithville |
| Palmer, Fred Niles, Jr. | '25 CE. | Dallas |
| Palmer, Frank Storm. | '23 VM. | Texas City |
| Palmer, Joe Collier. | '26 EE. | Houston |
| Palmer, Kenneth Sterling. | '24 EE. | San Antonio |
| Parish, Thomas Lee. | '23 ME. | Beaumont |
| Park, Donald McKenzie. | '26 Ag. | Dallas |
| Park, George Spangler. | '26 EE. | Denison |
| Park, Leo Goodwin. | '25 ME. | Greenville |
| Parke, Albert Lafayette. | '23 CE. | Dickinson |

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| Parker, Ernest, Jr. | '26 ChE. | Fort Worth |
| Parker, Wallis Prescott | '23 EE. | Cisco |
| Parkhill, Gordon Wight. | '24 CE. | Longview |
| Parks, John Martin | '26 ChE. | Farmersville |
| Parnell, Edward Douglass. | '23 AE. | Glen Rose |
| Parr, James Knox. | '24 Ag. | Hillsboro |
| Parr, Viron Pompton. | '26 EE. | Knippa |
| Parsons, Joseph Martin. | '24 ME. | Greenville |
| Partin, Link Cortaz | '26 EE. | Temple |
| Pate, William Collier. | '26 EE. | Cleburne |
| Paterson, Jack Hall | '24 Ag. | Austin |
| Patman, James Albert. | '26 AA. | Clarendon |
| Patrick, James Hardin. | '26 EE. | Paris |
| Patterson, Earl Frederick | '25 ME. | Galveston |
| Patterson, Frank Hawkins | Sp. AE. | Snyder |
| Patton, Joseph Alfred | '23 Ag. | Goss, La. |
| Patton, James Russell | '26 AA. | Waco |
| Patton, William Max. | '24 EE. | Greenville |
| Pazdral, Nuel. | '26 CE. | West |
| Peacock, William. | '26 EE. | Houston |
| Peak, Newton Edward, Jr. | '26 Ag. | Greenville |
| Pearson, Elma Price. | '26 Ag. | Denton |
| Peavy, Daniel Cornelius | '25 ME. | Cuero |
| Pederson, Peter Oliver. | '26 EE. | Dayton |
| Peak, John Randall. | '26 Ag. | Clarksville |
| Pendleton, Eldridge Honaker. | '23 Ag. | Farmersville |
| Pennybacker, Paul Jenkins. | '26 TE. | Palestine |
| Penry, Jack Gardiner. | '26 ChE. | Dallas |
| Peoples, Hillery Lee, Jr. | '25 AA. | Dallas |
| Perry, Dick. | '25 Ar. | Mineola |
| Perry, Elvis Edward | '26 EE. | Timpson |
| Perry, Preston. | H 1. | Rockdale |
| Peters, Joe Frank. | '26 Ag. | Giddings |
| Peterson, Charles James, Jr. | '26 ChE. | Beaumont |
| Peterson, Harry Lee, Jr. | '26 Ag. | Dallas |
| Petzing, William Norman | '26 EE. | Sherman |
| Peyton, Lewis Nelson | '26 CE. | Wichita Falls |
| Peyton, Roy Walker | '26 EE. | Shreveport, La. |
| Pfaff, Albert G. | '24 EE. | Gainesville |
| Pfau, Ralph Leslie | '24 CE. | Victoria |
| Pfluger, Walter Lee | '24 AA. | Eden |
| Phillips, Charles Cecil | '24 CE. | Rockdale |
| Phillips, James Kolb. | '26 Ag. | Rockdale |
| Phillips, Ross. | '23 CE. | Duncan, Okla. |
| Phillips, Wendal Lee | '26 Ag. Eng. | Marble Falls |
| Pier, Allen Robison | '26 CE. | Brenham |
| Pierce, Charles William. | '26 ME. | Lubbock |
| Pierce, Frank Cushman. | M 1. | Brownsville |
| Pingenot, Frank Edward. | '26 EE. | Eagle Pass |
| Pinson, Clem Tabor. | '26 Ag. | Forney |
| Pinson, Samuel Augustus, Jr. | '24 CE. | Forney |
| Pinson, William Meredith. | '26 Ag. | Forney |
| Pitts, Howard De Haven. | '24 Ar. | Luling |
| Platt, Joseph Edward | '26 EE. | Electra |
| Plunkett, Lewin, Jr. | '24 Ag. | Dallas |
| Poage, Conger. | '24 Ag. | Waco |
| Pollock, Jack Beall. | '26 EE. | Raymondville |
| Porter, Athal Ashley | '26 EE. | Big Spring |
| Porter, Charles Moorings | '25 AA. | Terrell |
| Poth, Jacob Henry. | Sp. Ag. | Poth |
| Potts, Charles Bruce | '25 AA. | Batesville |
| Powell, Bert R. | '25 Ag. | Bangs |
| Powell, Eddie Lee. | '26 ME. | Floresville |
| Powell, Guy Moreland | '26 Ag. | Red Oak |
| Powers, Waldo Willie. | '26 ChE. | Fort Stockton |
| Prather, Jere Trigg. | '26 AA. | Fort Worth |

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| Preston, Allan Hill | '24 ChE | Dallas |
| Prewit, James David | '23 Ag | Pecos |
| Price, Howard Stanley | '26 ME | Dallas |
| Price, N. R., Jr. | '26 ME | Albany |
| Price, William Sidney | '26 AA | Kerens |
| Priesmeyer, Raymond Marcus | '26 Ag | El Campo |
| Primm, Paul James | '26 CE | Mineral Wells |
| Proehl, Oscar Arthur | '23 Sci | Houston |
| Prudhomme, Daniel Edward | '26 AA | Marshall |
| Puckett, Almor Manor, Jr. | '26 AA | San Antonio |
| Puckett, Collin | '26 ChE | Breckenridge |
| Pumphrey, Ellsworth Brooks | '26 ChE | Fort Worth |
| Pustejovsky, Raymond George | '23 Ar | Moulton |
| Putnam, Somers | '26 CE | Throckmorton |
| Pye, Benier Freeman, Jr. | '25 Ag | Beaumont |
| Pyland, James Wesley | '25 AA | Marlin |
| Quayle, Richard | '25 Ag | Hillsboro |
| Quereau, Charles Henry | '26 Ag | San Antonio |
| Quinby, John Roy | '26 Ag | Los Angeles, Calif. |
| Quinn, John Donahue | '26 AA | Navasota |
| Rachel, Harvey Lee | C 2 | Texarkana |
| Ragsdale, Thomas Henry | '25 EE | Palestine |
| Rainey, Anson, Jr. | '25 Ar | Dallas |
| Ralph, Tom Bernard | '26 ME | Kirbyville |
| Ram, Avinashi | '23 TE | Calcutta, India |
| Ramsey, Louis Weete | '26 EE | Columbus |
| Ramsey, Newell Montague | '25 EE | Port Arthur |
| Ramsey, Walter Halm | N 1 | Blooming Grove |
| Rankin, Edward Lochridge | '25 Ar | Waxahachie |
| Rankin, Lon Garner | '24 Ag | Beeville |
| Rankin, Riley Ray | '26 ME | Woodward |
| Ransom, William Marshall | '25 EE | Bastrop |
| Ratcliffe, Thomas Gideon | '24 Ar | Dallas |
| Rawlins, Roderick Alexis | '25 CE | Lancaster |
| Ray, Roger Vaughn | '26 Ag | Burkburnett |
| Rayburn, Jack Searle | '26 CE | San Antonio |
| Reagan, Charles Anderson | '24 CE | Farmersville |
| Reaves, Fred Thomas | '26 CE | Abbott |
| Reaves, R. B. | '26 ME | Lometa |
| Rech, Edwin George | '25 AA | Smithville |
| Reddick, Walter Newton | '25 AA | Fort Worth |
| Reece, Robert Lee | '26 EE | McGregor |
| Reed, C. V. | Sp. AE | Cooledge |
| Reedy, Morris | '24 CE | Fort Worth |
| Reedy, Wilson Newton | '25 AA | Greenville |
| Reese, Andrew Porter | '26 CE | Cedar Valley |
| Reese, Joseph Travis | '23 TE | Freeport |
| Reid, Dalton Lee | '25 CE | Greenville |
| Reid, Rogers Fullerton | '23 EE | Orange |
| Reilly, Robert Bonaparte | '26 CE | Dallas |
| Reitch, Joseph Louis | '26 ME | Marshall |
| Reitch, Tom Clarence | '25 Ag | Mineola |
| Remschel, Marvin Henry | '25 AA | Gonzales |
| Remy, Theron Palmer | Sp. Sci | Bryan |
| Rettiger, William Charles | '26 CE | Temple |
| Reutzel, Harry Perry | '25 ChE | San Antonio |
| Reynaud, Oscar Field | '23 CE | Houston |
| Reynolds, Bernard Dickson, Jr. | '26 CE | Waco |
| Reynolds, Cook Swanson | '26 EE | Navasota |
| Reynolds, Elbert Brunner | Sp. AE | College Station |
| Reynolds, Ralph Rodney | '25 Ar | Bryan |
| Rhodes, Robert Riley | '26 EE | Midway |
| Rice, Marion Neil | Sp. Ag | Midlothian |
| Rice, Millard Weaver | '25 EE | Plano |

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| Richardson, Alvin Ike | '25 ME | McKinney |
| Richardson, Claude Alvin | '26 EE | Abilene |
| Richardson, David Porter, Jr. | '23 EE | Henderson |
| Richter, Charles Montgomery | C 1 | Waco |
| Riddick, John Allen | '26 ChE | Texarkana |
| Rikard, Ben B. | '26 EE | Percilla |
| Riney, Will Adams | '26 CE | Abilene |
| Ripple, Harold John | '26 AA | Sealy |
| Risley, Clifford George | N 2 | College Station |
| Riveire, Newell H. | '26 AA | Palestine |
| Rix, Ralph Wallace | '26 Ag | Big Spring |
| Robbins, Jesse Jewell | '25 VM | McKinney |
| Roberts, Ernest Floyd | '26 Ag. Eng. | Terrell |
| Roberts, Gordon Earl | '25 CE | Dalhart |
| Roberts, Homer David | '26 AA | Terrell |
| Roberts, Hermon Lorenza | '24 ME | Corsicana |
| Roberts, Hubert Oscar | '24 Ag. Eng. | Terrell |
| Roberts, James Hawkins | '26 ME | Dallas |
| Roberts, Leslje Abner | '26 Ag. | Waller |
| Roberts, Lona Lorris | '26 AA | Amarillo |
| Roberts, Raiford Ashley | '26 Ag | Big Spring |
| Roberts, William Edward | '26 EE | Goose Creek |
| Roberts, William John, Jr. | '26 ChE | Eagle Lake |
| Robertson, Thomas Clifton | '26 ChE | Dallas |
| Robinson, Conrad A. | '24 Ag. | Bartlett |
| Robinson, Louie Elmer | '26 AA | Sour Lake |
| Roddy, Perry Eugene | Sp. Ag. | Forney |
| Rodgers, Hugh Lloyd, Jr. | '26 AA | Bonham |
| Rodriquez, Meliton | C 1 | C. Victoria, Tamps., Mexico. |
| Roensch, Theodore Hermann | '26 AE | Bellville |
| Rogers, Archie Clifton | '23 EE | Cameron |
| Rogers, Clinton Charles | '23 Ag | Hondo |
| Rogers, Chester Raleigh | '26 ChE | Fort Worth |
| Rogers, Herman Leach | '26 Ag | Mart |
| Rogers, Rufus Hayden | '26 AA | Hillsboro |
| Rogers, Robert Lee, Jr. | '25 VM | Fort Worth |
| Rohde, Ronald Earl | '26 AA | Hearne |
| Roitsch, Conrad Robert | Sp. Ag. | La Grange |
| Rolaff, Ludlow | '26 ME | San Antonio |
| Roll, Glenn Wood | '25 ChE | Dallas |
| Rollins, John Martin | '26 CE | Gulfport, Miss. |
| Rolston, John Mathew | '26 ME | Streeter |
| Romberg, Conrad Julius | '24 ME | Holland |
| Rome, Maurice Anthony | N 2 | Bryan |
| Roots, Edmund Nelson | '26 EE | San Benito |
| Roquemore, Ray | N 1 | College Station |
| Rosales, Raymond | '26 ME | San Antonio |
| Rosborough, James Fears, Jr. | '23 Ag | Marshall |
| Rosborough, Richard Allen | '26 IE | Marshall |
| Rosborough, Robert Franklin | '26 AA | Marshall |
| Rose, Edward Laporte | '26 AA | Houston |
| Ross, Bert Falconer | '26 Ag. | Pecos |
| Ross, Henry | '23 Ag | Austin |
| Ross, John George | '26 AA | Pecos |
| Ross, John William, Jr. | '26 EE | Gainesville |
| Rounds, Will Arthur | '25 CE | Fort Worth |
| Rowland, William Geoble | '23 ME | Humble |
| Royal, Rheutillious Fletcher | '25 Ag | Pleasanton |
| Royall, William Foster | '26 AA | Bryan |
| Royder, T. H. | '26 Ag | Wellborn |
| Rudd, Joseph Clinton | '26 AA | Beaumont |
| Ruhmann, Edwin Paul | '25 EE | Kenedy |
| Rummel, Adolph Joseph | '24 EE | San Antonio |
| Russell, Hewlett Ausborn | '26 EE | San Antonio |
| Russell, James Nowlin | '26 EE | Waco |

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| Ryan, James Hardy. | '26 AE. | Bryan |
| Ryan, Wray Augustus. | '26 Ar. | Beaumont |
| Saage, Willie Fred. | '26 AA. | Bartlett |
| Salley, Kenneth Clifton. | '25 ME. | El Campo |
| Salley, Reno Olin. | '26 Ag. | El Campo |
| Samples, Jack. | '26 TE. | Fort Worth |
| Sanchez, Rafael. | Sp. Ag. | San Antonio |
| Sander, Owen Otto. | '26 AE. | Bellville |
| Sanderlin, Ralph Cecil. | '25 ME. | Electra |
| Sanders, Allison. | '26 CE. | Waco |
| Sanders, Fannie Mae. | Sp. | Bryan |
| Sanders, Mrs. I. C. | Sp. | Bryan |
| Sanders, Norman A. | '26 Ag. | Iola |
| Sanders, Sol Watson. | '26 AA. | Beaumont |
| Santerre, Mc Leo. | '23 Ag. | Dallas |
| Sarles, Blake Dave. | '26 AA. | Fort Worth |
| Saucier, John Randolph. | '26 EE. | Kerrville |
| Saunders, John Laroy. | '23 Ag. Eng. | Smithville |
| Saunders, John Marion. | C 2. | Blanco |
| Sawyer, Fred Linton. | '25 CE. | Sherman |
| Sayers, Ralph Segar. | '25 CE. | Houston |
| Sayles, Charles Murrell. | '26 CE. | Abilene |
| Scales, Arden Lee. | '26 TE. | San Antonio |
| Scales, Robert Henry. | '23 CE. | San Antonio |
| Schaefer, Elmo Marconie. | '26 Ag. | Schulenberg |
| Schaer, Robert. | Sp. AE. | College Station |
| Schwetz, David Proctor. | '25 ME. | Cuero |
| Schmid, Albert Darwin. | '25 CE. | Brenham |
| Schmidt, George Frank. | '23 Ag. | Kingsbury |
| Schneider, John Edward. | '26 ME. | Beaumont |
| Schueneman, Diedrich Hugo. | '24 EE. | Kenedy |
| Schuler, Gregory Edward. | N 2. | Galveston |
| Schultz, John Frederick. | '24 Ag. | Columbus |
| Schulze, Ferdinand. | '23 ChE. | Kerrville |
| Schutz, Hadley Carl. | '26 ME. | Houston |
| Schwab, Charles T., Jr. | '25 ME. | Cuero |
| Schwope, Eric Charles. | '26 CE. | Waring |
| Scott, George Washington. | '26 AA. | Denison |
| Scott, Kirk Hamilton. | '26 EE. | Floydada |
| Scroggins, William Reagan. | '26 AA. | Athens |
| Seals, Willie Delma. | '24 Ag. | Wichita Falls |
| Self, Selden Riley. | '26 Sci. | Honey Grove |
| Selman, George, Jr. | '26 CE. | Dallas |
| Selstad, Nels Erickson. | N 1. | Turlock, Calif. |
| Senter, Earl Elbert. | '26 EE. | Aspermont |
| Sessums, Charlie Milo. | '26 CE. | Dallas |
| Sessums, Harry J. | '26 CE. | Dallas |
| Shanks, George W. | Sp. Sci. | Pittsburg |
| Sharp, Boyd Felix. | '26 ChE. | De Leon |
| Sharp, Charles Brightman. | '25 EE. | Crockett |
| Sharp, Jim Houston. | '26 EE. | Crockett |
| Shaw, Harold Cook. | '23 Ag. | Victoria |
| Shaw, Luther Dexter. | '26 CE. | Troup |
| Shaw, Lawrence Edwin. | Sp. Ag. | Victoria |
| Shearer, Thomas Palmer. | '26 Ar. | Lufkin |
| Sheen, John Danzy. | C 1. | Mertzon |
| Sheffield, John Milo, Jr. | '23 AA. | Mart |
| Sheffield, John Stewart. | '24 ME. | Paris |
| Shelton, Dixon Bywaters. | '24 Ag. | Paris |
| Shelton, Thomas McKinley. | N 1. | Winnsboro |
| Sherman, Robert Miller. | '24 CE. | Waco |
| Shields, Fred Maynor. | '23 Ag. | Trinity |
| Shifflett, Lacy Briant. | '23 Ag. | Marble Falls |
| Shirley, Cecil Glen. | '26 Ag. | Nacogdoches |
| Shivers, John Franklin. | '26 Ag. | Crockett |

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| Shockley, Clarence Walter | '26 Ag | Big Spring |
| Shoemaker, Benton Lafayette | '26 ChE | Waco |
| Shofner, Bernis Aubrey | '26 Ag | Nacogdoches |
| Shook, Earley Melbourne | '25 EE | Fort Worth |
| Short, Charles Brandon | '24 Ag | Amarillo |
| Short, Henry Jenkins | '26 CE | Knox City |
| Short, Leslie Eaves | Sp. Ag | Bandera |
| Short, Walter Thomas | '24 Ar. | Silsbee |
| Sides, Jack H. | C 1 | Canton |
| Simmons, Forrest Charles | '23 EE | Shreveport, La. |
| Simpson, Frank Morton | '23 ME | La Porte |
| Simpson, Howard Burleson | '26 IE | Gallatin |
| Simpson, James Russell | '26 ME | La Porte |
| Simpson, Roger Lawton | '23 Ag | Dallas |
| Sims, Ben Oris | '26 ME | Kingsville |
| Singleton, Foster McMullen | '25 EE | Lufkin |
| Skelton, Jim Allen | Sp. TE | Brownsville |
| Skrabaneck, Raymond Emmitt | '25 Ar | West |
| Skrabaneck, Tommy Joseph | '25 ME | Ennis |
| Slaughter, David March | '26 AA | Laredo |
| Smith, Cecil Allen | '26 ME | Sanger |
| Smith, Clarence Edward | '26 AA | Hearne |
| Smith, Commodore Olian | '26 ChE | Tampico, Mexico |
| Smith, Charles Russell | Sp. Sci | Dallas |
| Smith, Eck | Sp. AE | Bryan |
| Smith, Edwin Frank | '26 Sci | Taylor |
| Smith, Elwyn H. | '26 Sci | Pittsburg |
| Smith, Erwin Preston | '26 Ar | Dallas |
| Smith, Elbert Vance | '25 AA | Dallas |
| Smith, Frank | M 1 | Crockett |
| Smith, Frederic Alphonse | M 2 | Winona |
| Smith, Gordon Morse | '26 Ar | San Antonio |
| Smith, Herschel DeVane, Jr. | '26 Ar | Dallas |
| Smith, Henry Norman | '25 Ag | Clarksville |
| Smith, Harry Sherman | '24 EE | Handley |
| Smith, James Eugene | '26 EE | Childress |
| Smith, Marlin Rocelius, Jr. | '24 CE | Coleman |
| Smith, Philip | Sp. VM | College Station |
| Smith, Percy Hilton, Jr. | '24 ME | Dallas |
| Smith, Ralph Ezra | '24 EE | College Station |
| Smith, Ralph Tyler | '26 CE | Temple |
| Smith, Wilburn Kelly | '23 Ag | Gatesville |
| Smith, Willie Ray | '25 ME | Sanger |
| Smith, Walter Sidney | '23 CE | Albany |
| Smith, Wade Wallace | '26 AE | Mineral Wells |
| Smith, Zay | '24 Ar. | San Antonio |
| Smotherman, Macy | '26 VM | McKinney |
| Smyth, Leon Lamar | '23 Ar. | Mart |
| Snively, Luther Meeker | '26 AA | Harlingen |
| Snead, Edwin Brazelton | '25 CE | Waco |
| Sneed, Harold Marvin, Jr. | '26 CE | Calvert |
| Snell, Casbeer | '24 Ag | Lampasas |
| Snyder, Silas Drew | Sp. IE | College Station |
| Sorrells, Charles Clifton | C 2 | Katemy |
| Sowell, Henry Oliver | '26 AA | Van Horn |
| Spaulding, Preston Letchworth | '26 EE | Dallas |
| Spears, James Russell | '26 AA | Jacksboro |
| Speed, Thomas Jefferson | '26 AA | Melon |
| Spence, Robert Joseph, Jr. | '26 CE | Crockett |
| Spence, Stanley Lyford | '23 CE | San Angelo |
| Spencer, Charles Bedford | '25 Ag | Marlin |
| Spencer, Hubert Leo | C 2 | Liberty Hill |
| Spencer, Hal Porter | '26 Ar | Oenaville |
| Spencer, James Leslie | '26 EE | San Antonio |
| Spencer, John Wesley | '26 EE | San Antonio |
| Spivy, Douglas Baird | '26 ME | Bonham |

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| Sprott, John William | '26 AA | Davilla |
| Staats, Corliss Gilbert | '25 Ar | Fort Worth |
| Stallings, Archie | '23 VM | Bryan |
| Stallings, Leonard | '23 AA | Brownwood |
| Standcliff, Thomas Herman | '25 ME | Houston |
| Standlee, Dan Graves | '24 ME | Handley |
| Stanford, Maurice Denton | '25 Ag | Lorena |
| Stasney, Leon William | '24 AA | Bryan |
| Steadley, Floyd Milton | '26 EE | Timpson |
| Steele, Albion Breward | '26 AA | Brookston |
| Steffens, Lynn David | '24 Ag | Smithville |
| Stegall, Richard Earl | '26 Ar | Fort Worth |
| Stein, Julius Albert | '26 ME | New Braunfels |
| Stephens, Berry Marvin, Jr | '26 CE | Dallas |
| Stephens, Gouverneur Robert | '23 CE | Mission |
| Stephens, Ira Alfred | '25 TE | San Antonio |
| Stephens, John Arch | '26 Sci | Paris |
| Stephens, Theodore Roosevelt | '24 Ag | Mission |
| Stephens, William Alton | '26 CE | Bradshaw |
| Stephenson, Leslie Deane | '25 ChE | Dallas |
| Stevens, James Kenneth | '24 ChE | Plainview |
| Stevenson, Homer Eads | '25 CE | San Antonio |
| Stewart, Charles Dickens | '26 EE | Hutto |
| Stewart, Hugh Miller | '25 EE | Corsicana |
| Stieneker, Edgar Fred | '25 EE | Dallas |
| Stiles, Wendel Arthur | '23 Sci | Waco |
| Stindt, Victor Gus | '26 EE | Shiner |
| Stobaugh, Albert Mayes | Sp. EE | College Station |
| Stokes, James Byron | '26 ME | Lufkin |
| Stone, William Venable | '25 AA | Belton |
| Storey, Jackson Grey | N 1 | San Marcos |
| Stout, Sidney Elbert | '26 ChE | Fort Worth |
| Stovall, J. D. | '26 AA | Waco |
| Stovall, John Oatis | '24 Ag | Mount Calm |
| Stovall, John Thomas | '23 Ag | Hubbard |
| Stovall, John Walker | '26 EE | San Antonio |
| Strange, John Hansel | '23 CE | Mart |
| Strange, Thomas Ray | '24 ChE | Ardmore, Okla. |
| Stratton, Leslie Martin | '26 AA | Waco |
| Stribling, Ralph Copeland | '24 CE | Rockdale |
| Stricker, John Matthais Edgar | '26 EE | San Antonio |
| Strieber, Alton LeRoy | '26 ME | Yorktown |
| Striekert, Roy Robert | '25 Ar | Brenham |
| Stroman, Clarence James | '26 Ag | Uvalde |
| Stromberger, Christian John | '26 EE | San Antonio |
| Struwe, Johnnie Bursleson, Jr | '24 EE | Caldwell |
| Struwe, Raymond Alton | '26 Ag | Caldwell |
| Stuart, Frank Bailey | '26 ME | San Antonio |
| Stuart, Russell Edward | '26 ME | Houston |
| Stubbeman, Alfred William | '24 ME | Cuero |
| Stubbs, Frank Marion, Jr | '25 Ag | Robstown |
| Sturgis, Madison B. | '24 Ag | Hampton, Ark. |
| Styner, Pete | '25 CE | Palestine |
| Summers, Burke Tucker | Sp. Sci | Nacogdoches |
| Summers, Ulysses Perry | '26 ME | Forney |
| Swanner, Charlie Brunett | '24 Ar | Denison |
| Sweatman, Lennie E. | '25 Ag | Ennis |
| Sweeney, Sam Arthur | '26 EE | Pearsall |
| Swinney, Buck | N 1 | Newton |
| Switzer, Richard Elmer | '26 Ar | Beaumont |
| Taber, Theron Simon, Jr | '24 EE | Fort Worth |
| Tabor, Sam Henry | '26 AA | Lockhart |
| Talbot, Daniel Green | '26 Ag | Fort Worth |
| Taliaferro, George Whiting | '26 Ag | Sherman |
| Tartt, James Branch | '26 AA | Galveston |

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| Tate, James Norman | '25 AA. | Marble Falls |
| Tatum, Herbert Madison | '24 Ar. | Dallas |
| Taylor, Alonzo Clason | '24 CE. | Fort Worth |
| Taylor, Earl Aulick | '26 ChE. | Fort Stockton |
| Taylor, Edward Wyllis, Jr. | '23 ChE. | Houston |
| Taylor, Glenn Evereth | '25 CE. | Coleman |
| Taylor, Jonnie Roscoe | '26 EE. | Beaumont |
| Terry, Chester W. | '24 CE. | Dallas |
| Terry, Jay Gordon | '26 ME. | Denison |
| Terry, Raymond Curtis | '26 AE. | De Leon |
| Thacker, Richard Bradley, Jr. | '25 ChE. | Houston |
| Thierstein, Fred Kelly | C 1 | Canadian |
| Thomas, Ira Lee, Jr. | '25 CE. | Alexandria, La. |
| Thomas, Robert | '26 EE. | Brownwood |
| Thomason, Gordon Randolph | '26 ChE. | Waco |
| Thompson, Alton Columbus | '26 CE. | San Antonio |
| Thompson, Ben Claude | '23 Ag. | Brady |
| Thompson, Oscar Augustus | '26 AA. | Hebbronville |
| Thompson, Webster Jones | '26 AA. | Hebbronville |
| Thorn, Avery Keese | '26 Ar. | Port Arthur |
| Thorn, Carl Marion | '25 EE. | Fort Worth |
| Thorp, Joseph Lewis, Jr. | '26 EE. | Dallas |
| Threadgill, Arthur Read | '26 Ar. | Marlin |
| Tickle, Harper Franklin | '25 AA. | Dallas |
| Tidwell, Jeff Lafayette | '26 ME. | Granger |
| Tiller, Allen Timothy | '26 ME. | Dallas |
| Tillery, Manning Eugene | '26 ME. | Beaumont |
| Tilley, Frank Gordon | '26 EE. | Jacksonville |
| Tilson, Hugh Arval | '26 AA. | Plainview |
| Timmerman, Walter Carl John | '26 EE. | Victoria |
| Tiner, Wayne Darwin | '23 CE. | Uvalde |
| Tips, Kern | '26 AA. | Houston |
| Tipton, Park | '26 Ag. | Floresville |
| Tisdale, Reese Stuart | N 1 | Wheeler |
| Tobin, Byron Eugene | '23 ME. | Pilot Point |
| Toler, Frank Norsworthy | '26 EE. | Dallas |
| Tolson, William Arthur | '23 EE. | Sherwood |
| Tomlinson, John Bine | '25 ME. | Denton |
| Tomkins, William Mounts | '25 AA. | Corpus Christi |
| Toner, Sylvan Morris | Sp. Ag. | Flat Rock, Indiana |
| Torbett, John Walter, Jr. | '26 Sci. | Marlin |
| Torbett, William Cleburne, Jr. | '23 ME. | Waco |
| Torian, Albert Halbert | '24 AA. | Waco |
| Tosch, Fred Lee | '26 AA. | Dallas |
| Tracy, Percy Lee | '26 AA. | Houston |
| Traylor, Robert Roy | '26 AA. | Matagorda |
| Treadgold, Robert Henry | '25 ME. | Houston |
| Trigg, Carl Jack | '26 EE. | College Station |
| Trim, Walter Franklin | '25 EE. | Big Wells |
| Triplett, Samuel Dodd, Jr. | '26 TE. | Fort Worth |
| True, Clyde Allen | '26 EE. | Polytechnic |
| Tubbs | '26 Ar. | Lubbock |
| Tucker, Bert Raab | '26 ME. | Fort Worth |
| Tucker, Joseph Claude | '24 ME. | Brenham |
| Tumlinson, John Clinton | '26 Ar. | Jourdanton |
| Turman, Walter Wilburn | '25 CE. | Howland |
| Turner, Dixon Leland | '23 Ag. | Dimmitt |
| Turner, Jack | '26 Ag. | Hillsboro |
| Turner, Nathaniel Parker, Jr. | '24 CE. | Marshall |
| Turner, Wiley Timothy | '26 Ar. | Abilene |
| Turney, Charles Marion | '25 Ar. | Smithville |
| Ulbrich, Chauncey Pierpont | '24 ME. | Hondo |
| Ulrich, Phillip Fred | N 1 | Wichita Falls |
| Ullery, Morton Harris | '26 ChE. | Dallas |
| Underwood, Carl Milton | '25 ME. | Denton |

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| Vaden, Frank Samuel, Jr. | '26 CE. | San Antonio |
| Valentine, Charles Howard. | '25 Ag. | Palestine |
| Valiente, Flavio, Jr. | '26 CE. | Santa Ana, El Salvador, C. A. |
| Van Horn, Richard Martel. | '25 Ar. | Fort Worth |
| Van Trease, Howard Neely. | '26 EE. | Buena Vista |
| Vinson, Walter Rhea. | '26 AA. | Palestine |
| Viotto, Peter Fisher. | H 1. | Galveston |
| Vogt, Emil. | '25 CE. | Schulenburg |
| Vondy, Andrew. | '26 Ar. | Houston |
| von Minden, Arthur Hermann. | '26 ME. | La Grange |
| Wade, Robert Cecil. | '26 ChE. | Terrell |
| Wade, Wallis John. | '25 Ar. | San Antonio |
| Waide, A. J. | '26 EE. | Sanger |
| Walker, Edward Raymond. | '26 ME. | Rockwall |
| Walker, Harold Hardy. | '24 CE. | Hillsboro |
| Walker, Otis Blanchard. | '26 EE. | Laredo |
| Wall, Charles Layton, Jr. | '24 EE. | San Antonio |
| Wallace, Marshall. | '26 ChE. | Beaumont |
| Wallace, Paul Gipson. | '24 EE. | Omaha |
| Wallace, Sam Preston. | '26 CE. | Dallas |
| Wallace, Thomas Hiram. | '26 EE. | Grayburg |
| Waller, John Andrew. | '24 CE. | Crockett |
| Walser, Paul H. | Sp. AE. | College Station |
| Ward, Alvis Andrew. | '25 EE. | Winnboro |
| Ward, James McCall. | '24 AA. | Waco |
| Ward, Robert Page. | '24 EE. | Georgetown |
| Ware, Charles Somerville. | '25 ChE. | Temple |
| Ware, Roy. | Sp. Ar. | College Station |
| Waring, William Hayne. | '26 EE. | Comanche |
| Warren, Homer Clay. | '24 Ag. | Waco |
| Warriner, Robert Meredith. | '26 EE. | Galveston |
| Washburn, Collins Reed. | '26 ChE. | Greenville |
| Washburn, David Abner, Jr. | '26 CE. | Nacogdoches |
| Washburn, Paul Jones. | '25 CE. | Heyworth, Ill. |
| Waters, Royce Henry. | '25 AA. | Lubbock |
| Watkins, James Elmo. | '26 EE. | Richardson |
| Watkins, Ruth. | Sp. | College Station |
| Watson, Charles. | '26 Ag. | Coleman |
| Watson, John William. | '25 AA. | Mart |
| Watterson, Travis Karl. | '26 Ag. | Red Rock |
| Watts, Albert Gleason. | '26 CE. | Livingston |
| Watts, Claude Devan, Jr. | '26 Ag. | Austin |
| Waugh, Charles Alden. | '25 ME. | San Antonio |
| Wayman, Lucius Archer. | '26 AA. | Fort Worth |
| Weeks, Wesley Dale. | '25 IE. | Dalhart |
| Weatherby, Eugene Jarvis. | '26 AA. | Hubbard |
| Weaver, Alfred Bradley. | '23 EE. | College Station |
| Weaver, Mrs. A. B. | Sp. | College Station |
| Weaver, Leo Lorraine. | '23 ME. | Navasota |
| Webb, Charles Marcus. | '24 CE. | San Antonio |
| Webb, Joe. | '25 CE. | San Antonio |
| Webber, John Daniel. | '25 Ag. | Houston |
| Weber, Carl. | '23 Ar. | Comfort |
| Weddell, William C. | '25 Ag. | San Angelo |
| Weddle, Arthur Leland. | '26 AA. | Gouldbusk |
| Weems, Roy Oden. | '26 AA. | Hereford |
| Wehrman, Clarence Reginald. | '25 CE. | Brenham |
| Weichsel, Robert Frances. | '26 Sci. | Dallas |
| Weinberg, Herbert Lee. | '23 ME. | Houston |
| Weinfeld, Milton. | Sp. Sci. | San Antonio |
| Weir, William Calvin. | '23 Ag. | Georgetown |
| Weise, Adolph V. | '23 ME. | San Antonio |
| Welch, Lewis Marion. | '24 EE. | Voth |
| Wendler, Walter Hugh. | '25 CE. | Boerne |

| | | |
|-------------------------------|--------------|-----------------|
| Wenmohs, Max John | M 1 | Cypress Mill |
| Werner, Richard Joseph | '25 Ar | San Antonio |
| West, Albert Washington, Jr | '26 AA | Uvalde |
| West, Simeon Grady | Sp. AE | Canton |
| Westbrook, Charles Alexander | C 2 | Waco |
| Wester, Carl Caldwell | '26 AA | Sulphur Springs |
| Westmoreland, Cecil Sylvester | '26 AA | Waco |
| Weverka, Frank Louis | '26 EE | Ennis |
| Weydell, Arthur Theodore | Sp. Ag | College Station |
| Weyland, Otto Paul | '23 ME | Taft |
| Wharton, Hugh Ernest | '26 EE | San Antonio |
| Whatley, George Aldridge | '24 EE | Calvert |
| Wheeler, Dudley Bailey | Sp. IE | Fort Worth |
| Wheeler, James Tillman | '26 ChE | Fort Worth |
| White, Perry Merrill | '26 CE | College Station |
| White, Robert Frazier | '24 CE | Houston |
| White, Robert Graves | '25 CE | Tyler |
| White, Russell Grant | '24 CE | San Antonio |
| White, Todd Rector | N 2 | Temple |
| Whitehouse, Ben | '24 Ag | Cleburne |
| Whitsett, Silver | '24 Ag | Crystal City |
| Wiggins, Thomas Darrell | '26 AA | Canadian |
| Wiginton, Morris Sheppard | '26 ME | Austin |
| Wilcox, George B | '23 AE | College Station |
| Wilcox, Mark | '26 CE | Bryan |
| Wilder, John Wesley | '23 Ar | San Antonio |
| Willie, Alton Lee | '26 EE | West |
| Wilkerson, William Wadsworth | '24 CE | Hearne |
| Willett, Eldon R | '25 Ar | Dallas |
| Williams, Carlton Albert | '26 Ag | Avoca |
| Williams, Edward John | '26 ME | College Station |
| Williams, George Davis | '25 CE | Fort Worth |
| Williams, Jack | '26 AA | San Antonio |
| Williams, Robert Boyd | '23 CE | Albany |
| Williams, William Kenneth | '26 ChE | Dallas |
| Williamson, John William | '25 VM | Sour Lake |
| Willig, Gerhard Emil | '24 IE | Temple |
| Willis, Cyril Samuel | '26 EE | Big Spring |
| Willis, William Hubert | '24 Ag. Eng. | Bryan |
| Willms, Harley A | '26 ChE | Columbus |
| Wilson, Cecil Calvert | '25 AA | Itasca |
| Wilson, Charles Ogilvy | Sp. Sci. | Navasota |
| Wilson, Estill Arnold | '24 Ag. Eng. | Leonard |
| Wilson, Edward Louis | '26 Ar | Luling |
| Wilson, Ellis Miles | '26 AA | San Antonio |
| Wilson, Fay | '26 AA | Honey Grove |
| Wilson, Hillsman Davis, Jr | '26 ME | Bryan |
| Wilson, Horace Earl | '23 ChE | Wharton |
| Wilson, James Henry | Sp. Ag | Covington, Ga. |
| Wilson, John Lea, Jr | '26 Ar | San Antonio |
| Wilson, Robert Ewing | '26 AA | Milford |
| Wilson, Richard Overall | '24 CE | Coleman |
| Wilson, Ray Wallace | '25 Ag | McKinney |
| Wilson, Robert Winston | '25 Ag. Eng. | McKinney |
| Wilson, Stewart Nolan | '26 VM | Bryan |
| Wilson, Thomas Fred | '25 TE | Honey Grove |
| Wilson, Wyman Winburn | '26 AA | Coleman |
| Wimberly, Claude E | '26 ME | Houston |
| Winchester, Clarence Leroy | '25 VM | Texarkana, Ark. |
| Winckler, William Henry | '26 ME | San Antonio |
| Wingfield, Robert Rhodes | C 1 | Denison |
| Wingo, William Halbert, Jr | '26 AA | Wills Point |
| Winzer, Maurice Moore | '26 EE | Reagan |
| Wipprecht, Walter, Jr | '26 ME | Bryan |
| Wiseman, Robert Anderson, Jr | C 1 | Floresville |
| Witchell, Charlie Burley | '26 Ar | Dallas |

| | | |
|-----------------------------|---------|-----------------|
| Wofford, Raymond Leslie | '26 Ar | Fort Worth |
| Woiton, John Benjamin | '25 CE | Bryan |
| Wolfe, George Clifton | '26 CE | Harrison, Ark. |
| Womack, Homer Elbert | '23 Ag | Corpus Christi |
| Womack, Mark Sanders | '26 Ag | Negley |
| Wood, Casper June | '26 ME | Jasper |
| Wood, Charles Robert | '25 EE | Honey Grove |
| Wood, Gaston Milling | '25 AA | Athens |
| Wood, Langston Herschel | '23 Ar | Henderson |
| Woodrum, Mack | '26 AA | Seymour |
| Woody, Robert Paul | '24 CE | Fort Worth |
| Wright, Asa Upton | '25 CE | Jefferson |
| Wright, Grady Edward | '26 CE | Rosebud |
| Wright, Thomas Lawrence | '26 AE | Abilene |
| Wurzbach, William Agustus | '25 Ag | San Antonio |
| Wyche, Robert Hiram | '26 Ag | Riesel |
| Wylie, Sherrell William | '26 AA | Jacksonville |
| Yard, Cullen Edward | '26 Ar | Waco |
| Yates, Marian Alvin | C 1 | Atlas |
| Yett, Ralph Phillips | '26 AA | Marble Falls |
| Young, Anderson Vaughn | '26 Ag | Marshall |
| Young, Edmund Rufus | '26 ChE | Jacksboro |
| Young, Lester Jones | '25 Ag | Fort Worth |
| Young, William Keeran | '23 AA | Laredo |
| Youngs, Walter Charles, Jr. | '25 CE | Dayton |
| Zarmoon, Zarmair Zakarian | '26 Sci | Erivan, Armenia |
| Zappe, Oscar Otto | '25 EE | Ballinger |
| Zimmerman, Percy Edward | '25 Ar | Coleman |
| Zinn, Bennie Ardist | '26 CE | Temple |

SPECIAL COURSE IN AGRICULTURE FOR FEDERAL STUDENTS

| | |
|--------------------------|---------------|
| Alexander, Thomas Lawson | Dale |
| Alford, Jim Burbon | Rockdale |
| Allen, Curry William | Sierra Blanca |
| Arp, Benjamin Frank | Lott |
| Bain, James Stephen | Bardwell |
| Barnett, Joe Ryle | Bryan |
| Campbell, John Thelbert | Morse |
| Campbell, Walter P. | San Antonio |
| Chick, Charlie Preston | San Angelo |
| Clark, Charles F. | Crandall |
| Clark, John Stewart | Irving |
| Conn, Charlie Mathew | Milam |
| Crow, Clarence L. | Groveton |
| Daniel, Fred Hart | New Waverly |
| Daniel, Seth A. | Houston |
| Davis, James D. | Sulphur Bluff |
| Dunn, James Frederick | Houston |
| Farmer, William Ross | Fort Worth |
| Floyd, Kenneth | Dublin |
| Gaines, Harry P. | Brownwood |
| German, John | Bryan |
| Green, George Sellers | Groveton |
| Green, James Lee | Bailey |
| Gulley, Luallen | De Berry |
| Gustavus, Onnie C. | Bryan |
| Harper, Floyd | Cooper |
| Harris, Beedy Eoffton | Honey Grove |
| Harrison, Bosie B. | Detroit |
| Hughes, Justin Mendal | Mercedes |
| Hunt, Bud Grady | Atoka |
| Jones, Barton Douglas | Comanche |
| Knight, Cato M. | Miller Grove |

| | |
|----------------------------------|--------------------|
| Kooistra, Jan..... | College Station |
| McGill, John Thomas..... | Sherman |
| Mann, Berry Duke..... | Goose Creek |
| Marshall, Ollie Quinton..... | Waco |
| Maultsby, Rupert A..... | San Saba |
| Mittelman, Philip..... | Lask, Poland |
| Morton, George Washington..... | Weatherford |
| Morton, John S..... | Weatherford |
| Patterson, Fred L..... | Rowena |
| Plagens, Theodore Richard..... | Kurten |
| Poole, Samuel Euclid..... | Hattiesburg, Miss. |
| Rice, John T..... | Centralia |
| Rogers, Joseph Louis..... | Blum |
| Koss, Earl Wallace..... | San Antonio |
| Rubinsky, Harry..... | Boston, Mass. |
| Rush, Simmie Parker..... | Bryan |
| Sawyer, Clarence Mervin..... | Millican |
| Simpson, Delbirt Melvon..... | Iola |
| Slaven, Lonnie J..... | Water Valley |
| Tadlock, Carter M..... | Timpson |
| Tallmon, Rollie Jefferson..... | Polytechnic |
| Thigpen, James Young..... | Daingerfield |
| Thornton, Odis Newton..... | De Kalb |
| Tribble, John Hilton..... | Frisco |
| Turner, Norman Henry..... | Denton |
| Turner, Virgil Lamont..... | Lewisville |
| Welch, Jim G..... | Bryan |
| Wells, Samuael Lockhart..... | Mullen |
| Williams, Cincinnatus Lamar..... | Talpa |
| Williams, William E..... | Bryan |
| Wilson, Henry P..... | Baton Rouge, La. |
| Willis, John Marvin..... | Norton |
| Worsham, Joseph Luster..... | Bryan |
| Wright, Virg l Blanchard..... | Byron, Mich. |

SPECIAL COURSE IN COTTON CLASSING FOR FEDERAL STUDENTS

| | |
|----------------------------------|-----------------|
| Anderson, James Pursley..... | Temple |
| Ashley, Uyless Oscar..... | Milano |
| Baker, Henry..... | Fort Worth |
| Baker, Ike Boulds..... | Navasota |
| Barkley, William Ernest..... | Fort Worth |
| Barrow, Whit Music..... | Lamesa |
| Bell, George..... | Annona |
| Bennett, Mayne Livingston..... | San Antonio |
| Benton, James Henry..... | Texarkana, Ark. |
| Boatright, Monroe Vaughan..... | Waco |
| Bonham, Vaughn Eldon..... | Galveston |
| Boully, Denis William..... | Temple |
| Brantley, Arnold Livingston..... | Windom |
| Brown, Cooper B..... | Waco |
| Carpenter, James Franklin..... | Commerce |
| Carper, John Henry..... | Houston |
| Cartwright, Baxter Polks..... | San Augustine |
| Childress, Robert Curtis..... | Ore City |
| Covington, Robert T..... | Grandview |
| English, William Robert..... | Kennard |
| Fountain, James Milton..... | Bryan |
| Gee, Sidney Thomas..... | Troup |
| Gossett, Raymond Welton..... | Cleburne |
| Gregory, John R..... | Temple |
| Gunn, Jake Edward..... | Richland |
| Harkey, Earl Boyce..... | England |
| Hawthorne, John H..... | Milano |
| Hill, Jack Coleman..... | McKinney |
| Hoffman, John Washington..... | Texarkana, Ark. |

| | |
|---------------------------------|-----------------|
| Humason, Guerdon Westley..... | Gresham |
| Hurley, Joseph Collier..... | Houston |
| Johnson, Hubert Floyd..... | Waco |
| Jones, Frank Stanton..... | Houston |
| Jones, Royal Samuel..... | Montalba |
| Kirby, DeWitt Talmage..... | Franklin |
| Laden, Wyatt Wearl..... | Texarkana, Ark. |
| Langston, Earl Albert..... | Redwater |
| Martin, Phlute Augustus..... | Wichita Falls |
| Morris, Earnest Pink..... | Hugo, Oklahoma |
| Mueller, Clarence John..... | Orange Grove |
| Oakes, Harvey McAllister..... | Clarksville |
| Perkins, Leonard S..... | Calvert |
| Porter, Charles Ray..... | Waco |
| Radford, James Agee..... | Houston |
| Rowland, Charles Edward..... | Longview |
| Sayers, Philip Edgar..... | Houston |
| Singleton, Joseph V..... | Marquez |
| Smith, Robert Sidney, Jr..... | Houston |
| Stiller, Alexander Chapman..... | Dallas |
| Stiller, George Milwayne..... | Dallas |
| White, Paul..... | Hamilton |
| Williams, Henry Lanham..... | Rule |

EIGHT WEEKS COURSE IN AUTO MECHANICS

| | |
|--------------------------------|----------------------|
| Barth, K. W..... | Eddy |
| Bigbee, Arthur Franklin..... | Hamilton |
| Boswell, Vivian Whiteside..... | Fort Worth |
| Brockenmeyer, W. H..... | Independence |
| Buck, W. G..... | Washington |
| Buesing, Emil..... | Nordheim |
| Byrd, Othar Lee..... | Rockdale |
| Clark, Curtis John..... | Clyde |
| Clark, Guy Eldon..... | Wheeler |
| Couch, Johnnie Clarence..... | Batson |
| Cumpston, Curtis..... | Blooming Grove |
| Dantos, C. B..... | New York, N. Y. |
| Dostalík, L. J., Jr..... | Flatonia |
| Ehler, Ernest Emil..... | Schulenburg |
| Files, James Monroe..... | Gorman |
| Gillaspie, Sigmond..... | Scurry |
| Hamilton, Clarence A..... | Ocean Springs, Miss. |
| Hines, H. A..... | Rule |
| Hilliard, Ottis..... | Lingleville |
| Hurdle, Bennie Irwin..... | Brenham |
| Jones, Andrew Sidney..... | Scurry |
| Jop, Gus Ewald..... | Kurten |
| Jop, Hugo Robert..... | Kurten |
| Kohring, W. H..... | Washington |
| Kruppa, Edmund Joe..... | Schulenburg |
| Kubelka, Willie A..... | Beasley |
| Larche, Charles James..... | Batson |
| Lawrence, I. F..... | Cedar Bayou |
| Lehman, John Eldon..... | Normangee |
| Loran, August J..... | Munday |
| Loran, Emil A..... | Munday |
| Luza, F..... | Bryan |
| Mason, George Abraham..... | Tioga |
| Matons, F..... | Bryan |
| Matula, Charlie J..... | Buckholts |
| Mayhugh, Chestney John..... | Hunt |
| Mobley, Thomas..... | Red Rock |
| Moffatt, Joe Roy..... | Clifton |
| Moore, Burton..... | Cooper |
| Moore, Paul..... | Cooper |

| | |
|-----------------------------------|----------------|
| Morris, Neylaed Garland..... | Marquez |
| Noak, Herbert..... | Burton |
| Parker, Gordon Emory..... | Dallas |
| Pechanec, Charles..... | Crosby |
| Petty, Alonzo Weldon..... | Roscoe |
| Pieper, Fritz John..... | Rowena |
| Pippen, Norman Madison..... | Elysian Fields |
| Reed, A. M..... | Rockdale |
| Rogers, Roy Rolland..... | Normangee |
| Sanders, Thomas Milton..... | Dublin |
| Sleeper, William Markham, Jr..... | Waco |
| Smith, Frank Bigham..... | Belton |
| Sowell, Frank Files..... | Midway |
| Stewart, Jewell Otho..... | Milano |
| Stock, Raymond George..... | Rosebud |
| Talley, Homer Hazel..... | Sanger |
| Thompson, W. W..... | Devine |
| Tietschert, Max Andrew..... | Columbus |
| Walker, McKeever James..... | Buckholts |
| Weidner, Otto August..... | Brenham |
| Williams, Samuel Claude..... | Bryan |
| Woiton, Robert Henry..... | Bryan |
| Zuehlke, Max A..... | Burton |

FEEDERS AND BREEDERS SHORT COURSE

| | |
|------------------------|---------------|
| Angle, M. L..... | Fort Worth |
| Beringer, E..... | West |
| Eubank, Lee..... | Hamilton |
| Gill, E. W..... | Whon |
| Hall, Clyde..... | Brady |
| Hurd, Walter W..... | Brady |
| Harstock, A. W..... | Washington |
| Hardin, J. C., Jr..... | Willow City |
| Jones, H. Leslie..... | Fort McKavett |
| Lathem, Clyde E..... | Dalhart |
| McCan, Laude E..... | Marianna |
| Moore, W. M..... | San Saba |
| Peavy, W. D..... | Marianna |
| Roberts, T. J..... | Brady |
| Spivey, W. T..... | Joy |
| Salter, Everet..... | Brady |
| Sander, Charles H..... | Austin |
| Winslow, Robert J..... | Menard |

SUMMARY OF ENROLLMENT, REGULAR SESSION 1922-23,
BY STATES AND FOREIGN COUNTRIES

| | | | |
|---------------------|------|-------------------------|------|
| Texas..... | 2057 | Mexico..... | 14 |
| Arkansas..... | 23 | Brazil..... | 3 |
| Louisiana..... | 20 | India..... | 3 |
| Oklahoma..... | 11 | Cuba..... | 2 |
| California..... | 4 | Armenia..... | 1 |
| Mississippi..... | 3 | Egypt..... | 1 |
| Tennessee..... | 3 | England..... | 1 |
| Illinois..... | 2 | Panama..... | 1 |
| New York..... | 2 | Peru..... | 1 |
| Alabama..... | 1 | Phillipine Islands..... | 1 |
| Colorado..... | 1 | Poland..... | 1 |
| Florida..... | 1 | San Salvador, C. A..... | 1 |
| Georgia..... | 2 | | |
| Indiana..... | 1 | | |
| Massachusetts..... | 1 | | |
| Michigan..... | 2 | | |
| Missouri..... | 1 | | |
| New Hampshire..... | 1 | | |
| North Carolina..... | 1 | | |
| Vermont..... | 1 | | |
| Washington..... | 1 | | |
| Wyoming..... | 1 | | |
| Total..... | | | 2170 |

SUMMER SESSION 1922

Abbreviations

C—College.
 CC—Cotton Classing.
 F—Federal Students.
 FB—Farm Boys' Course.

AM—Auto Mechanics.
 CA—County Agents.
 G—Grain Grading.
 EM—Electric Metermen.

| Name | Division | Address |
|---------------------------|----------|----------------------------|
| Abercrombie, Charles Milo | C. | Houston |
| Adams, F. L. | EM. | Waco |
| Adams, Madison Hilliard | C. | Forney |
| Agnew, Wayne | CC | Dallas |
| Alexander, E. R. | C. | Bryan |
| Allen, Bernice John | C. | McGregor |
| Allen, Heber Rieves | C. | Mansfield, La. |
| Alley, Elvis L. | CC | Bryan |
| Allison, Ulmont Sterling | C. | Bishop |
| Alsmeyer, Henry Louis | C. | Mission |
| Ames, C. B., Jr. | CC | Oklahoma City, Oklahoma |
| Anderson, G. T. | CC | Gilmer |
| Argudin, Manuel Zarrabal | C. | Orizaba, Ver., Mex. |
| Arick, Melvin Ray | C. | Fort Wayne, Ind. |
| Arnold, A. W. | CC | Angleton |
| Ashburn, Redman Franklin | C. | Denison |
| Ashworth, Durward Belmont | C. | Weatherford |
| Aughtry, Robert C. | C. | Valley View |
| Austin, Arling T. | CC | Celeste |
| Bailey, Lewis | C. | Bryan |
| Bailey, Percy Smith | C. | Rusk |
| Baker, J. R. | CC | Eagle Lake |
| Ballerstedt, B. G. | CC | Taylor |
| Banta, Milton William | CC | Wetumka, Okla. |
| Barbee, William Terry | C. | Mercedes |
| Barbour, William Lason | C. | Tampico, Mexico |
| Barclay, John F. | C. | Reagan |
| Barlow, Hayden Samuel | C. | Kerens |
| Barnes, Thomas Gerald | C. | Port Arthur |
| Barnett, Joseph R. | F. | Bryan |
| Barrow, Whit Music | CC | Lamesa |
| Bates, John James | C. | Delia |
| Bauer, W. C. | CC | Belton |
| Beck, John W. | CC | Runge |
| Beers, Mary | C. | Bryan |
| Bell, B. | FB | Cotulla |
| Bell, J. W. | CC | Mesquite |
| Belt, James D. | CC | Waco |
| Bender, J. W. | C. | Dallas |
| Benton, James Henry | CC | Longview |
| Birdwell, Leroy | C. | Overton |
| Bizzell, Elaine | C. | College Station |
| Black, Alan Rolland | C. | Ingleside |
| Blakely, Thomas C. | CC | Houston |
| Bone, Norfleet Giddings | C. | Dallas |
| Bonham, Vaughn Eldon | CC | Sallisaw, Okla. |
| Boone, Bernard Oliver | C. | West |
| Bose, John Carlos | C. | San Antonio |
| Boyce, John Thomas | C. | Okolona, Ark. |
| Boyd, E. H. | EM. | Marshall |
| Boyett, A. P. | CC | College Station |
| Bozeman, J. S. | CC | Sulphur Springs |
| Bradbury, Alfred M. | CC | Franklin |
| Brandt, Edward Dupree | C. | Houston |

| Name | Division | Address |
|-----------------------------|----------|-------------------|
| Brantley, Arnold Livingston | CC | Windom |
| Brengle, H. I. | CC | Midway |
| Bridges, Jack | CC | Sulphur Springs |
| Brient, Albert Sidney | C | San Antonio |
| Brown, Cooper B. | CC | Waco |
| Brown, Edgar Allen | C | Fort Worth |
| Brown, Gilbert Humphrey | C | Bryan |
| Brown, Horace Clark | CC | Little Rock, Ark. |
| Brown, J. J. | C | Cherokee |
| Brown, Roy L. | CC | Waco |
| Brown, Spencer L. | CC | Many, La. |
| Brown, W. C. | CC | Roxton |
| Brownlee, I. R. | AM | College Station |
| Bruno, T. C. | CC | Bay City |
| Bryan, Henry L. | CC | Snyder, Okla. |
| Bryant, J. M. | CC | Whitewright |
| Bryant, W. Lee | CC | Garland |
| Bryson, R. B. | CC | Fort Worth |
| Buckley, Charles Clark | C | Jourdanton |
| Buckner, Floyd King | C | Weatherford |
| Burns, Patton Wright | C | Cuero |
| Burton, Miles Kirk | C | Galveston |
| Bussey, Emmett D. | C | Longview |
| Byles, Mack D. | CC | Bryan |
| Caffey, John T. | CC | Bryan |
| Calhoun, J. C. | CC | Charco |
| Callaway, Lester Howard | C | Crockett |
| Calvin, Elmer Ben. | C | Markley |
| Camp, Tom | EM | Navasota |
| Campbell, Roy Baker | C | Segin |
| Campbell, Roscoe Mathew | CC | Bryan |
| Cappleman, Lester James | C | Honey Grove |
| Cardwell, D. | CC | Needville |
| Carleton, Robert Earl | F | Bryan |
| Carlile, Arthur | CC | Muskogee, Okla. |
| Carmichael, Pome Roy | CC | Granbury |
| Carpenter, D. R. | CA | Texarkana |
| Carpenter, Jones F. | CC | Commerce |
| Carpenter, Kirby Custer | F | Bryan |
| Carroll, Homer Clarence | C | Dallas |
| Carroll, James R. | CC | Yoakum |
| Carroll, Paul E. | CC | Kennedy |
| Castles, Thomas F. | CC | Bryan |
| Cejka, Fred George | C | Sublime |
| Chamberlain, George S. | CC | Sulphur Springs |
| Chapman, Dewitt Charles | C | Waco |
| Chapman, S. B. | CC | Weimar |
| Chappell, Charlie Britten | CC | Larue |
| Chappelle, Hugh Lyman | C | College Station |
| Chase, A. L. | EM | Waco |
| Childress, Rutledge B. | CC | Boyd |
| Childress, Robert C. | CC | Ore City |
| Christopher, Uriel Echols | CC | Plano |
| Clark, Ben C. | C | McAlester, Okla. |
| Clark, Ewing D. | CC | Weslaco |
| Clark, Prior H. | C | Hillsboro |
| Claunch, Bonner | FB | Cotulla |
| Clawson, R. G. | CC | Perry, Ark. |
| Cleveland, Noah Alcander | C | Beaumont |
| Cobb, T. C. | C | Kyle |
| Cochran, Clyde Vernon | C | Lockhart |
| Coleman, Ransom James | C | Bryan |
| Cole, Solon Lycurgus | C | Galveston |
| Coleman, R. M. | CC | Corpus Christi |

| Name | Division | Address |
|-----------------------------|----------|----------------------------|
| Compton, Charles Reed | C. | Waco |
| Conn, Charlie M. | F. | Milam |
| Cook, Arthur Edgar | CA | Atoka, Oklahoma |
| Cooper, O. P. | CC | Soper, Oklahoma |
| Cordell, Ben Early | C. | San Antonio |
| Cornett, W. D., Jr. | CC | La Pryor |
| Cotten, C. | CC | Miles |
| Cottingame, William Kellie | C. | Milford |
| Cotulla, P. | FB | Cotulla |
| Cotulla, Roy | FB | Cotulla |
| Coutret, Henry | CC | Charco |
| Covington, Robert T. | CC | Grandview |
| Cox, Demmie Herbert | C. | Houston |
| Craven, R. L. | CC | Greenville |
| Crawley, C. S. | EM. | Arlington |
| Crofts, S. | FB | Marble Falls |
| Crosnoe, Clyde Cecil | C. | Hope, Arkansas |
| Crow, Clarence L. | F. | Bryan |
| Crump, John O. | FB | De Kalb |
| Culver, R. S. | CC | Pittsburg |
| Cunningham, J. B. | CC | Valley View |
| Currie, Victor Monte. | C. | Houston |
| Curry, Franklin P. | CC | Longview |
| Darby, Eugene Benjamin | C. | Houston |
| Dardian, Ulrich | CC | Ville Platte, La. |
| Davidson, Ray Elmer | F. | Bryan |
| Davidson, Van | C. | Lufkin |
| Davidson, Walter H. | C. | Fort Worth |
| Davis, Birdwell Cope | C. | Sonora |
| Davis, F. E. | CC | Grandview |
| Davis, Roy Francis | C. | Nacogdoches |
| Dean, Thomas N. | CC | Grand Saline |
| DeAsis, Guillermo | C. | Dumangas, Iloilo, P. I. |
| Deering, Perry Allen | C. | Millican |
| DeLange, Walter Howard | C. | Sherman |
| DePasquale, Domenic Victor | C. | Dickinson |
| Detering, Herman Eberhard | C. | Houston |
| Deutsch, Henry | AM. | Houston |
| Dibble, Jasper C. | CC | Valley Stream, N. Y. |
| Dich, Charles | CC | Wichita Falls |
| Dickson Hugh | CC | Galveston |
| Dodge, Fred K. | C. | Jacksonville |
| Dodson, Samuel Breeding | C. | College Station |
| Doss, R. E. | CC | McAllen |
| Dowling, W. L. | CC | Bryan |
| Draper, J. L. | CC | Loraine |
| Drisdale, John Virg | C. | Juno |
| Duke, Ernest Ray | C. | Claude |
| Dycus, Ralph W. | CC | Farwell |
| Eagleston, Edward Granville | C. | Del Rio |
| Eagle, Robert Gray | C. | Fort Worth |
| Eaves, H. T. | EM. | Galveston |
| Edge, Atha | C. | Bryan |
| Edge, Eugene | C. | Bryan |
| Edge, Hettie | C. | Bryan |
| Edwards, Arthur Irvin | C. | Coleman |
| Eineigl, John Charles | CC | Yorktown |
| Elder, Theodore Allen | C. | Palacios |
| Elliott, Joel Wallace | C. | Temple |
| Elzner, E. E. | CC | Kaufman |
| Epperson, T. W. | CC | Bluff City, Ark. |
| Ernst, Theodore L. | CC | Jourdanton |

| Name | Division | Address |
|-------------------------------|----------|----------------------|
| Erskine, Alexander Madison | C. | San Antonio |
| Eschenburg, Carl Robert | C. | Floresville |
| Ettle, Dorothy Louise | C. | Bryan |
| Evans, Emery W. | CC. | Fort Worth |
| Fahey, Gerald Calhoun | C. | Navasota |
| Fant, Frank M. | CC. | Belton |
| Faulkner, G. W. | CC. | Santa Anna |
| Faures, Morris H. | EM. | Baton Rouge, La. |
| Fawcett, Horace Keyes | C. | Del Rio |
| Fenner, C. B. | C. | Cordele |
| Ferguson, J. L. | EM. | Weatherford |
| Field, William West | C. | Lockhart |
| Fields, R. | CC. | Hamlin |
| Floyd, Kenneth | F. | Houston |
| Flynt, M. | CC. | Ballinger |
| Forrest, Francis Bedford | C. | Waxahachie |
| Fortune, Herbert O. | C. | Smithville |
| Fountain, J. C., Jr. | EM. | Marlin |
| Fountain, James Milton | CC. | Bryan |
| Fram, Philip | C. | Dallas |
| Fraps, George Saunders | C. | College Station |
| Frederick, Wayne B. | C. | Blooming Grove |
| Freeborough, Benjamin Bonnett | C. | San Antonio |
| Frels, Rubin | EM. | Bellville |
| Friar, G. | CC. | Cuero |
| Fritts, Thomas Albert | C. | College Station |
| Fruit, Julian E. | CC. | Houston |
| Fry, Cecil R. | C. | Pike |
| Fuchs, Conrad | CC. | Cypress Mill |
| Gainey, Walter Clarence | C. | Grapeland |
| Gargus, Dee Armon | CC. | Merkel |
| Garrett, George Moss | C. | Paris |
| Garrett, James | CC. | Logansport, La. |
| Gay, Samuel Junious | C. | Moscow |
| Geer, John M. | EM. | Sweetwater |
| Gidden, I. D. | EM. | Mexia |
| Giesenschlag, E. L. | CC. | Snook |
| Gipson, S. O. | CC. | Terrell |
| Gladden, J. B. | CC. | McKinney |
| Glazener, Verna Ray | C. | College Station |
| Goad, Herman John | F. | Dallas |
| Gohmert, Edward Herman | C. | Yorktown |
| Gomez, Federico | C. | Linares, N. L., Mex. |
| Goodwin, R. E. | CC. | Denton |
| Gough, Roy Hampton | C. | Hereford |
| Gourley, William Milton | C. | College Station |
| Graham, S. B. | C. | Galveston |
| Gray, Benny Frank | C. | Slocum |
| Gray, William Fred | C. | Beaumont |
| Green, J. L. | F. | Bryan |
| Green, Weaver | CC. | Pritchett |
| Greer, Dewitt Carlock | C. | Pittsburg |
| Gregory, Clyde R. | F. | Bryan |
| Gregory, T. E. | CC. | Beeville |
| Grover, Rufus Markham | C. | Bay City |
| Gulley, Luallen | F. | Bryan |
| Gunn, Jake E. | CC. | Bryan |
| Gustavus, Onnie C. | F. | Bryan |
| Hagler, Jacob | EM. | Port Arthur |
| Hail, William Dudley | C. | Crockett |
| Hailey, Cyrus Hale | C. | Marlin |
| Hall, Mable Annie | C. | Bryan |

| Name | Division | Address |
|------------------------------|----------|-----------------|
| Hardee, C. T. | EM. | McKinney |
| Hardman, Benjamin Joseph | F. | Leonard |
| Harper, Floyd | F. | Bryan |
| Harpole, Earl Yale | C. | Houston |
| Harrell, E. | CC. | Waco |
| Harrell, Willis Horace | C. | Claude |
| Harris, Herman D. | FB. | Waelder |
| Harris, Will D. | C. | Quitman |
| Harrison, Bosie B. | F. | Detroit |
| Haynie, T. J. | CC. | Richards |
| Heald, C. Metza. | C. | Anson |
| Heartfield, Richard Cornish | C. | Sour Lake |
| Heger, Frank Ferdinand | C. | Shiner |
| Henderson, J. A. | CC. | Ropesville |
| Hendricks, John Alvin | C. | Penelope |
| Henry, J. M. | CC. | Talco |
| Henry, O. L. | CC. | Trenton |
| Herrling, Frederick Charles | C. | Kurten |
| Hester, Stephen Garvin | C. | Thomas |
| Hickman, T. C. | C. | Tuleta |
| Hicks, Everett Vivian | G. | Bryan |
| Hicks, Louis Sidney | C. | Conroe |
| Higashijima, Kenji | CC. | Dallas |
| Higginbotham, Mack Whiteside | C. | Alvin |
| Hill, C. W. | CC. | Trenton |
| Hinds, James Herbert | C. | Austin |
| Hobbs, Edward | C. | Rice |
| Hodges, B. | CC. | Princeton |
| Hodges, L. P. | CA. | Chatfield |
| Hoffman, Dan Clinton | EM. | Austin |
| Holland, George Dewey | C. | Bryan |
| Holmes, Charles Troy | C. | Bryan |
| Hook, W. H. | CC. | Hillsboro |
| Hope, Washington Byron | C. | Leonard |
| Hopkins, F. R. | AM. | Terrell |
| Hopkins, Marks Warfield | C. | Dallas |
| Horn, William Christian | C. | Bryan |
| Horne, Oral Lee | C. | Maverick |
| Houston, J. C. | CC. | Wylie |
| Howell, Jack W. | C. | Bryan |
| Howell, Leander D. | C. | Bexar, Alabama |
| Howlett, James Garnett | CC. | Allen |
| Huff, Calvin Ralph | C. | Raymondville |
| Hughes, Justin Mendal | F. | Bryan |
| Hughes, Marion Bell | F. | Wills Point |
| Hughes, William Hobson | C. | College Station |
| Humphrey, L. H. | FB. | Katy |
| Hunt, Robert L. | C. | Bryan |
| Hyland, Kathryn M. | C. | College Station |
| Impson, Robert L. | CC. | McKinney |
| Ingraham, C. W. | EM. | Beaumont |
| Irwin, Arthur James | C. | Galveston |
| Jacobs, A. E. | CC. | Mangum, Okla. |
| James, Paul E. | CC. | Bryan |
| Jayroe, Doyle | AM. | Novice |
| Jernigan, Glenn A. | EM. | Port Arthur |
| Jinks, Leon Carlton | C. | West Columbia |
| Johnson, Claud | EM. | Bastrop |
| Johnson, George | CC. | Wolfe City |
| Johnson, Robert H. | CC. | Leonard |
| Johnston, B. | FB. | De Kalb |
| Jones, Barton Douglas | F. | Comanche |
| Jones, Frank | FB. | Cotulla |

| Name | Division | Address |
|---------------------------------|----------|-----------------------------|
| Jones, Frank Stanton..... | CC | Houston |
| Jones, John Daniel..... | C | Bryan |
| Jones, Lyman Burrell..... | C | San Antonio |
| Jordon, J. R..... | CC | Houston |
| Josserand, Pierre L..... | C | Galveston |
| Jourdain, Paul..... | CC | Lille, France |
| Kawasaki, Torataro..... | CC | Dallas |
| Kerr, James Fielder..... | C | Thurber |
| Keys, Clyde..... | C | Mexia |
| Kindle, John Madison..... | C | McKinney |
| King, Albion Sterling..... | C | Lake Charles, La. |
| King, E..... | CC | Conway, Ark. |
| King, J. M..... | CC | Fort Worth |
| Kirby, D. T..... | CC | Waco |
| Knight, Cato M..... | F | Miller Grove |
| Koch, J. A..... | CC | Quanah |
| Krenek, J. J..... | CC | College Station |
| Kreusler, William..... | F | Cibolo |
| Kunkel, Carl Mitchell..... | C | San Antonio |
| Ladd, G. L..... | CC | Paris |
| Laden, Wyatt Wearl..... | CC | Elysian Fields |
| Lambert, Thomas E..... | F | Swift |
| Lang, Roy Tilford..... | CC | Rusk |
| Langley, V. W..... | C | Houston |
| Langlotz, Wilburn Edward..... | C | Fayetteville |
| Lastor, Montojo..... | CC | Calvert |
| Lebo, Miles Bishoff..... | C | Halifax, Pa. |
| Lee, G..... | EM | San Antonio |
| Lee, James Alexander..... | C | Houston |
| Lee, R. O..... | CC | Marshall |
| LeMay, Sonley Robert..... | C | Cooledge |
| Leon, Morris..... | CC | Abilene |
| Leuty, Ben David..... | C | Krum |
| Levin, Louis..... | CC | Sealy |
| Lewis, C. M..... | CC | McKinney |
| Liles, Homer McFarlin..... | C | San Benito |
| Lind, Lucian..... | FB | Cotulla |
| Loew, Gilbert Edward..... | C | Beaumont |
| Long, J. A..... | CC | Melissa |
| Long, William Buford..... | C | Fort Worth |
| Longley, Herbert..... | CC | Hico |
| Love, Ben S..... | C | Franklin |
| Loveless, William P..... | CC | Waxahachie |
| Lowery, E. B..... | EM | Paris |
| Lusby, F. H..... | AM | Sawtelle, Calif. |
| Lyons, R. F..... | CC | East Windsor Hill, Conn. |
| McCall, Frank Robert..... | CC | Portia, Ark. |
| McCarter, John E..... | CC | Eastland |
| McCasland, O. A..... | CC | Quinlan |
| McChesney, William Hull..... | C | San Antonio |
| McConnell, Mack..... | C | Crockett |
| McConnell, Willie Byron..... | CC | Bryan |
| McCormick, Burt D..... | CC | Hutto |
| McCormick, William Wallace..... | CC | Cuero |
| McCullough, John Pinkney..... | C | Bryan |
| McCullough, Wilmer Raymond..... | C | Bryan |
| McGee, Roger Valentine..... | C | Bryan |
| McGlothing, Adolph Vincent..... | C | Waelder |
| McGuffey, R. Manley..... | C | Hubbard |
| McIntosh, H. W..... | EM | Galveston |
| McKain, Edgar B..... | CC | Greenville |
| McKenzie, Jim..... | CC | Mart |

| Name | Division | Address |
|-------------------------------|----------|-----------------|
| McKinney, R. D. | CC | Newcastle |
| McKinney, William H. | C | Whitesboro |
| McKnight, Thomas William | C | Hallettsville |
| McKoy, Emory Clifford | C | Rockwall |
| McLaury, William Rowland | C | Snyder, Okla. |
| McMahon, W. M. | FB | Cotulla |
| McMeans, B. | CC | Bynum |
| McNabb, Arch A. | CC | Celina |
| McNeil, Hugh Robinson | C | Crystal City |
| McSwain, Ross Francis | C | Wellborn |
| MacDonnell, Burleson | C | Kyle |
| MacFarland, George Orval, Jr. | C | Bryan |
| Magnuson, Nels Conrad | C | Lyford |
| Mahan, Alfred | C | Bryan |
| Mangan, G. U. | EM | Wichita Falls |
| Mangum, John Festus | C | Crockett |
| Manly, Clarence E. | FB | Cotulla |
| Marney, Will C. | EM | Corsicana |
| Marquart, Louis Napoleon | CC | Bryan |
| Marshall, A. | FB | Cotulla |
| Marshall, C. H. | CC | Weslaco |
| Martin, Daisy | C | College Station |
| Martin, Everett Clifton | C | Kurten |
| Martin, Frank O. | C | College Station |
| Martin, George Edward | C | College Station |
| Martin, Sam E. | CC | Austin |
| Martin, Vernon | C | Bryan |
| Mason, Clinton Carmack | C | College Station |
| Mast, Hollis Tucker | C | Nacogdoches |
| Masuda, Barook Joseph | C | Cairo, Egypt |
| Matchett, Robert Kyle | C | Bay City |
| Matthews, Robert Harroll | C | Uvalde |
| Maultsby, Rupert A. | F | San Saba |
| May, I. M. | C | Normangee |
| Mayfield, Lee | C | Hughes Springs |
| Meadows, W. L. | CC | Temple |
| Medbery, Clinton Amos | C | College Station |
| Megarity, Ceborn H. | C | Waco |
| Melville, David | CC | Ladonia |
| Mercer, George A. | G | Galveston |
| Meyer, Leslie Joe | C | Ellinger |
| Mikeska, V. J. | CC | Mikeska |
| Miles, Homer U. | C | Galveston |
| Miller, Jesse Clinton, Jr. | C | Elgin |
| Miller, Robert F. | F | Brenham |
| Miller, William Earle | C | Uvalde |
| Miller, Will James | CA | Smithville |
| Miller, William Zachery | C | Bellville |
| Milligan, Robert Joel | C | McKinney |
| Minier, J. Arthur | C | Waco |
| Mistrot, F. E. | CC | Waco |
| Mitcham, Ralph Alexander | C | Murchison |
| Mitchell, Clarence D. | F | Bryan |
| Mitchell, J. C. | CC | Sinton |
| Mitchell, J. S. | CC | Bonham |
| Mitchell, Ralph Howard | C | College Station |
| Mixon, Edward | CC | Commerce |
| Mogford, Alfred Christian | C | Streeter |
| Monk, James William | C | Bryan |
| Monroe, O. D. | CA | Haslet |
| Montgomery, Vol Hardwicke | C | Muskogee, Okla. |
| Moore, Carl William | C | Cisco |
| Moore, Dudley Spencer | C | Lampasas |
| Moore, Helen B. | C | Bryan |

| Name | Division | Address |
|---------------------------|----------|------------------|
| Moore, John H. | CC | Alvarado |
| Moore, James Irving | C | Calvert |
| Moore, J. R. | EM | Temple |
| Moore, Samuel E. | CC | Troup |
| Moore, Tillman Marion | C | Llano |
| Morgan, Ellis Hamilton | C | Houston |
| Morgan, John Edward | C | LaGrange |
| Morgan, Luther Drummond | CC | Many, La. |
| Morgan, Ray F. | CC | Honey Grove |
| Morris, C. J. | EM | El Campo |
| Mosley, Wilburn Wilson | C | Temple |
| Moulden, C. W. | CC | Austin |
| Muller, Jerome August | C | Livingston |
| Mullican, J. T. Iver | C | Cooper |
| Muncey, James Arthur | C | Corpus Christi |
| Munn, Carl G. | G | Sterling City |
| Munson, A. T. | AM | Georgetown |
| Murray, R. E. | CC | Floresville |
| Myers, James Vernon | C | Booth |
| Myers, Lewis | CC | Bridgeport |
| Myers, Philip | C | Floresville |
| Neely, Ray Griffith | C | Barstow |
| Neighbors, L. D. | CC | Detroit |
| Nelson, J. W. | CC | Mathis |
| Newell, George Robert | CC | Nixburg, Alabama |
| Newell, William Houston | F | College Station |
| Newport, Fred Carl | C | Tomahawk, Ark. |
| Nixon, Sam A. | C | Calvert |
| Notestine, Edmund | C | Big Spring |
| Oakes, Harvey M. | CC | Clarksville |
| Odom, Alva Mitchell | CC | Stonewall, Okla. |
| Oehl, Erwin A. | CC | Moulton |
| Ogden, E. E. | CC | Dallas |
| Oliphint, Joseph B. | C | College Station |
| Oliver, Eugene | C | Kountze |
| Orndorff, Melvin Ernest | CC | Hope, Arkansas |
| Osborne, S. Vance, Jr. | CC | Bynum |
| Overby, V. G. | AM | Waco |
| Owens, George W. | F | Ft. Cobb, Okla. |
| Palmer, Joe Collier | AM | Houston |
| Parish, Thomas Lee | C | Beaumont |
| Parke, Albert Lafayette | C | Dickinson |
| Parker, Charles D. | C | Dilley |
| Parker, Mrs. Charles D. | C | Dilley |
| Parkhill, Gordon Wight | C | Longview |
| Parr, Charles Ervin | CC | Celeste |
| Paschal, Samuel Sylvester | F | Mount Calm |
| Pastusek, John F. | CC | Wichita Falls |
| Pate, Redmon | CC | Lake Arthur, La. |
| Patterson, Frank Hawkins | C | Yancey |
| Patterson, H. S. | CC | Bryan |
| Patterson, John Carr | C | College Station |
| Patterson, R. Carter | C | Millerview |
| Patterson, R. T. | CC | Rogers |
| Patton, William Max | C | Greenville |
| Pauling, R. A. | CC | Nocona |
| Pauls, E. C. | CC | Paige |
| Peavy, Daniel Cornelius | C | Cuero |
| Persons, T. K. | EM | Waxahachie |
| Petterson, George E. | AM | Georgetown |
| Pfau, Ralph Leslie | C | Victoria |
| Phillips, Charles Cecil | C | Rockdale |

| Name | Division | Address |
|------------------------------|----------|-----------------|
| Phillips, James Kolb | C. | Datil, N. M. |
| Phillips, Ross | C. | Duncan, Okla. |
| Pierce, Lewis Alva | C. | Marshall |
| Pinson, Harry Tom | C. | Proctor |
| Pinson, Samuel Augustus, Jr | C. | Forney |
| Pipkin, Louise | C. | Bryan |
| Pitts, Howard DeHaven | C. | Luling |
| Poe, Fred Taylor | C. | Commerce |
| Pollard, Ed | CC | Farmersville |
| Poole, Samuel Euclid | F. | Alexandria, La. |
| Poole, Travis | FB | Cotulla |
| Poorman, Samuel | FB | Katy |
| Popham, Thomas Alfred | C. | Corsicana |
| Portis, Leslie H. | CC | Lepanto, Ark. |
| Poteet, R. C. | CA | Montague |
| Powers, William Lorenza | C. | Bryan |
| Prewit, James David | C. | Pecos |
| Price, Edward O. | CC | Hermitage, Ark. |
| Price, Emmett William | C. | College Station |
| Price, R. T. | EM. | Amarillo |
| Quin, Joseph D. | CC | Galveston |
| Rachel, Harvey Lee | F. | Texarkana |
| Ragsdale, Thomas Henry | C. | Palestine |
| Ram, Avinashi | C. | Calcutta, India |
| Rawls, Sim Seth | C. | Webster |
| Reagan, Charles Anderson | C. | Farmersville |
| Reagan, G. H. | C. | Dallas |
| Reddick, Walter Newton | C. | Fort Worth |
| Reed, C. V. | C. | Wortham |
| Reed, Lee Rotan | C. | Sterling City |
| Reed, N. H. | G. | Sterling City |
| Reedy, Morris | C. | Fort Worth |
| Remy, Theron P. | C. | Bryan |
| Reynaud, Oscar Field | C. | Houston |
| Reynolds, Ewell Ellison | C. | Mount Calm |
| Reynolds, James Milton | C. | Mount Calm |
| Rhodes, Archille W. | CC | Hillsboro |
| Rikard, Ben F. | C. | Bryan |
| Riley, D. L. | CC | Coleman |
| Risley, Clifford George | F. | San Antonio |
| Robbins, Jesse Jewell | C. | McKinney |
| Roberson, O. H. | EM. | Brownwood |
| Roberts, Hubert Oscar, Jr. | C. | Terrell |
| Robinson, Brittain Bragunier | C. | Galveston |
| Robinson, Conrad A. | C. | Bartlett |
| Rogers, Clinton Charles, Jr. | C. | Hondo |
| Rogers, Victor Lee | C. | Silsbee |
| Rogers, Mrs. V. L. | C. | Silsbee |
| Rome, Maurice Anthony | F. | Mission |
| Roquemore, Ray | F. | Franklin |
| Rounds, Will Arthur | C. | Fort Worth |
| Rowland, Charles E. | CC | Longview |
| Runk, O. B. | CC | Shiner |
| Russell, Frank E. | CC | Ladonia |
| Ryan, Oscar Theodore | C. | Livingston |
| Sandel, John Mickle | C. | Shiro |
| Sanders, C. E. | C. | Hempstead |
| Sanders, H. S. | G. | Floydada |
| Sanders, Joshua Soule | C. | Mansfield, La. |
| Sanders, O. L. | CC | Taft |
| Sanders, T. Milton | AM. | Dublin |
| Saunders, John Laroy | C. | Smithville |

| Name | Division | Address |
|------------------------------|----------|-----------------|
| Sayles, Charles Murrell | C. | Abilene |
| Scasta, R. C. | CC | Wheelock |
| Schaap, Walter E. | CC | Houston |
| Schiller, Horace | CC | Lott |
| Schmidt, George Frank | C. | Kingsbury |
| Schuttee, Elbert A. | G. | Bryan |
| Scott, E. H. | EM. | Abilene |
| Seale, S. W. | C. | Floresville |
| Secrest, Clarence M. | CC | Paris |
| Shell, A. | FB | Millett |
| Shelton, Dixon Bywaters, Jr. | C. | Howland |
| Sheppard, A. J. | CC | Purcell, Okla. |
| Sheppard, E. P. | CC | Purcell, Okla. |
| Sherman, Robert Miller | C. | Waco |
| Simon, Ben | CC | Houston |
| Simpson, Roger Lawton | C. | Dallas |
| Sims, Glen A. | CC | Dawson |
| Singleton, Joseph V. | CC | Marquez |
| Sisco, Paul | CC | Farmersville |
| Skelton, W. B. | CC | Cameron |
| Smith, Commodore Olian | C. | Tampico, Mexico |
| Smith, H. F. | CC | Cameron |
| Smith, Henry Norman | C. | Clarksville |
| Smith, J. A. | CC | Edom |
| Smith, Marlin Rocelius, Jr. | C. | Coleman |
| Smith, Percy Hilton, Jr. | C. | Dallas |
| Smith, Ralph Ezra | C. | College Station |
| Smith, Robert S., Jr. | CC | Houston |
| Smith, Wilburn Kelly | C. | Gatesville |
| Smith, Walter Sidney | C. | Albany |
| Smith, Wade Wallace | C. | Mineral Wells |
| Snell, Casbeer | C. | Lampasas |
| Snow, Joseph Claud | C. | Leonard |
| Southall, Eunice Harmon | CC | Bryan |
| Sparks, W. C. | CC | McGregor |
| Spence, Stanley Lyford | C. | San Angelo |
| Sponseller, F. | FB | Fowlerton |
| Sprain, H. C. | CC | Oenaville |
| Spurger, Stephen H. | C. | Bryans Mill |
| Staats, W. F. | CC | Marion |
| Stallings, Archie | C. | Bryan |
| Stallings, R. D. | CC | West |
| Stamps, W. T., Jr. | EM. | Terrell |
| Steele, Dewitt Durham | C. | Corpus Christi |
| Steele, John R. | C. | Madisonville |
| Steffens, Lynn David | C. | Smithville |
| Stephens, Ira Alfred | C. | San Antonio |
| Stone, Marshall H. | CC | Houston |
| Stone, Thomas Ford | CC | Houston |
| Stovall, John Oatis | C. | Mount Calm |
| Stover, Raymond John | C. | Smithville |
| Strange, E. M. | CC | Waco |
| Strange, Thomas Ray | C. | Ardmore, Okla. |
| Straughan, George Ramer | C. | Lovelady |
| Street, Herbert A. | CC | Goldthwaite |
| Street, J. H. | CC | Austir |
| Stribling, Ralph Copeland | C. | Rockdale |
| Stricker, W. C. | CC | Campbell |
| Strickland, A. C. | C. | Groesbeck |
| Swanner, Charlie Brunett | C. | Denison |
| Tadlock, Carter M. | F. | Timpson |
| Tallmon, Rollie Jefferson | F. | Polytechnic |
| Taylor, Alonzo Clason | C. | Fort Worth |
| Taylor, Archilous C. | CC | Bryan |

| Name | Division | Address |
|-----------------------------------|----------|-----------------|
| Taylor, Glenn Evereth..... | C. | Coleman |
| Taylor, Ira B..... | CC | Granger |
| Taylor, Leo H..... | CC | Temple |
| Terrell, L. E..... | CC | Newcastle |
| Terry, Chester W..... | C. | Dallas |
| Terry, Raymond Curtis..... | C. | De Leon |
| Tew, Charles C., Jr..... | CC | Bay City |
| Thigpen, James Young..... | F. | Bryan |
| Thomas, Charles Wright..... | C. | La Grange |
| Thomas, Ira Lee, Jr..... | C. | Alexandria, La. |
| Thomas, O. E..... | CC | Hugo, Okla. |
| Thomas, William R..... | CC | Clarendon, Ark. |
| Thompson, Ben Claude..... | C. | Brady |
| Thompson, Hardy E..... | C. | Leona |
| Thompson, Olin..... | FB | Katy |
| Thornton, Odis Newton..... | F. | De Kalb |
| Threadgill, Arthur Read..... | C. | Marlin |
| Tidmour, Charles C..... | CC | Bryan |
| Timm, Fred Hugh..... | CC | Runge |
| Tiner, Wayne Darwin..... | C. | Uvalde |
| Tipton, Park..... | C. | Floresville |
| Torian, Albert Halbert..... | C. | Waco |
| Traugott, Henry, Jr..... | AM. | Mercedes |
| Tribble, John Hilton..... | F. | Bryan |
| Trigg, Carl Jack..... | C. | Galveston |
| Tunnell, Bonnie Florence..... | C. | Lewisville |
| Turner, Dixon Leland..... | C. | Bryan |
| Turner, Norman Henry..... | F. | Denton |
| Turner, Nathaniel Parker, Jr..... | C. | Marshall |
| Turner, Virgil Lamont..... | F. | Bryan |
| Tyson, Gilmer..... | CC | Waterman |
| Uhrich, Phillip Fred..... | F. | Wichita Falls |
| Upchurch, Beve..... | AM. | Bedias |
| Valentine, Charles Howard..... | C. | Palestine |
| Van Tuyl, Andrew J..... | C. | Fort Worth |
| Varisco, B. T..... | CC | Steeles Store |
| Vincent, C. R..... | CC | Conroe |
| Vlk, John J..... | FB | Ennis |
| Waldrop, Nanne Shel..... | C. | Bryan |
| Walker, Andrew..... | CC | Tyler |
| Walker, B. P..... | EM | Graham |
| Walker, Harold Hardy..... | C. | Hillsboro |
| Walker, J. H..... | CC | Kerens |
| Walker, L. E..... | CA | Avery |
| Walker, O..... | FB | Fowlerton |
| Waller, John Andrew..... | C. | Crockett |
| Walton, Turner T..... | C. | College Station |
| Ward, James McCall..... | C. | Waco |
| Ward, Robert Page..... | C. | Lytle |
| Warren, C. H..... | CC | Royse City |
| Warren, S. E..... | EM | Bryan |
| Watson, John William..... | C. | Mart |
| Watson, R. D..... | CC | Newcastle |
| Watson, Roy J..... | CC | Newcastle |
| Webb, Charles Marcus, Jr..... | C. | San Antonio |
| Webb, Ernest..... | C. | San Antonio |
| Webb, Joe..... | C. | San Antonio |
| Weir, William Calvin..... | C. | Georgetown |
| Welch, Jim G..... | CC | Bryan |
| West, Albert Washington, Jr..... | C. | Uvalde |
| West, Simeon Grady..... | C. | Knox City |
| Westerman, Edward..... | CC | Galveston |

| Name | Division | Address |
|------------------------------|----------|------------------|
| Whatley, George Aldridge | C. | Calvert |
| Whelpton, P. K. | C. | College Station |
| White, Robert Frazier | C. | Houston |
| White, Russell Grant | C. | San Antonio |
| White, Taylor | C. | Sealy |
| Whiteside, Boothe | AM. | Gonzales |
| Whitley, W. R. | CC | Temple |
| Wilcox, George B. | C. | College Station |
| Wilkerson, William Wadsworth | C. | Hearne |
| Wilkins, Claude Alexander | C. | Smiley |
| Wilkins, Edmond Whitfield | CC | Paris |
| Williams, Bryan | CC | Hawkins |
| Williams, Cincinnattus Lamar | F. | Bryan |
| William, O. T. | C. | Springtown |
| Williams, Robert Boyd | C. | Albany |
| Williams, Urbane Marvin | F. | Bryan |
| Williams, William E. | F. | Nacogdoches |
| Williamson, W. C. | CC | Belton |
| Willis, Claude Channing | C. | Whitewright |
| Willis, H. R. | FB. | Meridian |
| Willis, William Hubert | C. | Bryan |
| Willis, Charles Ogilvy | C. | Navasota |
| Wilson, Horace Earl | C. | Wharton |
| Wilson, Henry P. | F. | Baton Rouge, La. |
| Wilson, L. L. | CC | Buckholts |
| Wilson, Robert H. | CC | Sherman |
| Wilson, Richard O. | C. | Coleman |
| Wilson, Robert Winston | C. | McKinney |
| Wilson, T. G. | CC | Memphis |
| Wilson, William P. | CC | Gilmer |
| Winston, Frank J. | CC | Palmyra, Ark. |
| Wipprecht, Paul | CC | Bryan |
| Wood, Charles Robert | C. | Honey Grove |
| Woody, Robert Paul | C. | Fort Worth |
| Worsham, Joseph Luster | F. | College Station |
| Wurzbach, William Augustus | C. | San Antonio |
| Wyche, Robert Hiram | C. | Bryan |
| Wymola, A. J. | EM. | Brenham |
| Wynne, Robert Bruce | CC | Tatum |
| Yater, Travis | CC | Cleburne |

SUMMARY OF ENROLLMENT, SESSION 1922-23

DEGREE COURSES

| | Agr. | AA. | Ag.Ed. | Sci. | VM. | Arch. | Ag.Eng. | Ch.E. | C.E. | E.E. | M.E. | T.E. | I.E. | Total |
|----------------|------|-----|--------|------|-----|-------|---------|-------|------|------|------|------|------|-------|
| Graduate..... | 13 | ... | 1 | ... | 2 | 10 | 5 | 2 | 4 | 34 | 1 | 8 | ... | 21 |
| Senior..... | 65 | 12 | 5 | 3 | 1 | 16 | 8 | 24 | 45 | 46 | 30 | 9 | 3 | 282 |
| Junior..... | 66 | 32 | 2 | ... | 1 | 31 | 12 | 24 | 76 | 52 | 55 | 5 | 2 | 405 |
| Sophomore..... | 67 | 74 | 1 | ... | 6 | 43 | 5 | 57 | 97 | 201 | 100 | 14 | 2 | 839 |
| Freshman..... | 117 | 156 | 11 | 31 | 5 | 100 | 30 | 125 | 249 | 333 | 207 | 36 | 7 | 1757 |
| | 329 | 274 | 20 | 34 | 14 | 100 | 30 | 125 | 249 | 333 | 207 | 36 | 7 | 1757 |
| Special..... | 32 | 17 | 15 | 19 | 1 | 7 | 2 | 1 | 3 | 2 | 3 | 2 | 4 | 108 |
| Women..... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 14 |

TWO-YEAR COURSES

| | C | H | M | N | Total |
|------------------|----|-----|----|----|-------|
| Second Year..... | 16 | ... | 2 | 15 | 31 |
| First Year..... | 25 | 5 | 8 | 23 | 61 |
| | 41 | 5 | 10 | 36 | 92 |

| | |
|---|----|
| Special Course in Agriculture for Federal Students..... | 66 |
| Special Course in Cotton Classing for Federal Students..... | 52 |
| Auto Mechanics..... | 63 |
| Feeders and Breeders Short Course..... | 18 |

Total Regular Session.....2170

| | | |
|-----------------------|--|-----|
| Summer Session, 1922: | 1. College..... | 354 |
| | 2. Cotton Classing..... | 241 |
| | 3. Federal Students—Special..... | 45 |
| | 4. Farm Boys' Course..... | 22 |
| | 5. Auto Mechanics..... | 13 |
| | 6. County Agents' Course..... | 7 |
| | 7. Grain Grading..... | 6 |
| | 8. Short Course for Electric Metermen..... | 33 |
| | 9. Farmers' Short Course..... | 897 |

Total Summer Session.....1618

Grand total, 1922-23.....3788

Less names repeated.....298

Net enrollment, 1922-23.....3490

DEGREES AND CERTIFICATES CONFERRED AT THE
FORTY-SIXTH ANNUAL COMMENCEMENT]

(June 6, 1922)

Master of Science

In Agriculture (2)

Sebastian Lomanitz,
B. S., A. and M. College of Texas, 1908.

Edward Michael Regenbrecht,
B. S., A. and M. College of Texas, 1918.

Bachelor of Science

In Agricultural Administration (3)

Dwyer, P. A.

Rea, H. E.

Reynolds, J. M.

In Agricultural Education (1)

Thurmond, M. F.

In Agriculture (66)

Albrecht, F. W.
Atkins, H. L., Jr.
Ballard, W. L.
Baskin, B. J.
Bennet, V., Jr.
Boykin, G. L.
Brown, J. C.
Buescher, N. E.
Carlisle, J. T.
Chambers, C. H.
Christopher, U. E.
Clarke, C. C.
Davidson, J. A.
Dieterich, A. F.
Dinan, L. F.
Dinwiddie, O. D.
Ehlert, R. J.
Eubank, B.
Fahey, G. C.
Flinn, F. E.
Foster, W. S.
Frazier, O. H.

Frede, L. H.
Furneaux, W. F.
Graham, J. C.
Hale, F.
Hanly, E. W.
Harris, G. W.
Hensarling, T. A.
Holmgreen, E. N.
Howell, L.
Howell, R. H.
Jenkins, B. L.
Jinks, L. C.
Jobson, C. C.
Jones, J. H.
Jordan, W. R.
Judd, F. W.
Key, D. L.
Knapp, W. L.
Landram, A. B.
Lasseter, W. E.
Lawson, G. E.
Love, W. M.

Masuda, B. J.
Meitzen, R. J.
Menke, W. M.
Mims, M. P.
Notestine, E.
Pattillo, R. E. L.
Patton, W. P.
Pinson, H. T.
Ramsey, R. H.
Real, C.
Rosborough, C.
Severn, J. M.
Sprague, C. T.
Steele, D. D.
Stewart, M. P.
Strange, J. R.
Tippit, R. R.
Vaughan, R. G.
Wendt, F. T.
Willis, C. C.
Woolsey, V. G.
Wupperman, R. O.

In Architecture (6)

Dreeke, H. L.
Finney, C. J.

Gardner, J. E.
Schiwetz, E. M.

Strange, W. T., Jr.
Sullivan, W. J. B.

In Chemical Engineering (37)

Bimmerman, H. G.
Bimmerman, P. H.
Buchan, F. E.
Carruthers, R. L.
Cloer, V. U.
Collins, L. L.
Crane, C. C.
Cretien, P.
Crites, E. A.
Currie, J. F.
Davis, R. F.
Fouraker, R. W.
Friedlandér, L. H.

Fuchs, J.
Hall, R. W.
Harrington, M. T.
Hartung, G. H.
Howell, E. J.
Hurley, C. W., Jr.
Johnson, A. S.
Keith, A. C.
Leverett, L. A.
Lott, O. C.
Martin, J. W.
Moore, J. C.

Opryshek, K.
Payne, W. A., Jr.
Prickett, P. S.
Rosenburg, M. L.
Stiles, R. W.
Thomas, C. W.
Thompson, O. C.
Tucker, H. L.
Wheeldon, H.
Willard, H. B.
Williams, W. H., Jr.
Winn, W. E.

In Civil Engineering (29)

Alexander, R. K.
Armstrong, P. W.
Baskett, J. L.
Beesley, B. B.
Bizzell, W. S.
Boriskie, F. W.
Bridges, R. E.
Carson, C. W.
Faulkner, R. C.
Foster, T. O., Jr.

Freeman, E. M.
Grothaus, F. E.
Hannaforde, W. E.
McCarty, T. J.
McRimmon, M.
Malone, M. L.
Maxson, T. E.
Miles, W. J.
Mulvey, W. B.
Orr, J. A.

Porter, J. W.
Redditt, T. G.
Roper, W. N.
Simmons, W. E.
Thomas, R. B.
Tompkins, J. F.
Works, M. M.
Wright, S. R.
Zachry, H. B.

In Electrical Engineering (37)

Bourke, L. J.
Burns, L. L.
Burr, J. B.
Clanton, R. W.
Clark, C. R.
Crawford, J. M.
Cruikshank, J. P.
Davidson, C. E.
Davis, C. H.
Dillingham, H. C.
Dougherty, H.
Drummet, P. W.

Fason, E. B.
Garitty, B. J.
Golden, C. H.
Gurwitz, J. A.
Hunt, A. E.
King, R.
Lancaster, A. P.
Lang, J. J., Jr.
Lynch, W. W.
Matthes, C. L.
Niebuhr, W. A.
Rogers, E. W.
Saunders, H. M.

Schaedel, F. W.
Schaefer, Q. B.
Schlather, E. G.
Schmidt, H. E.
Silvus, W. E.
Spreen, H. F.
Stamps, W. T.
Steele, J.
Steele, R. B.
Webster, D. H.
Weisbrich, R. A.
Wyly, J. J., Jr.

In Mechanical Engineering (25)

Alexander, W. R.
Baur, L. W. A.
Billingsley, B. C.
Byron, L. A.
Cochran, B. B.
Davis, H. C.
Dockum, O. L.
Ebling, L. R.
Fischer, C. F.

Forsyth, D. M.
Goss, H. T.
Hamilton, W. B.
Hoppe, A. B.
Kerr, E. J.
Koehler, E.
McReynolds, J. M.
March, J. P.

Mayo, J. W.
Naschke, B. B.
Porter, J. B.
Price, R. E.
Smith, M. V. F.
Tiemann, E. F.
Webber, A. T.
Yater, J. A.

In Textile Engineering (7)

Anchicks, C. S.
Franke, P. C., Jr.

Guynes, J. R.
Knapp, J. A.
Luckett, C. A.

Neeley, M. J.
Thompson, H. W.

Doctor of Veterinary Medicine (3)

Brauner, V. J.

Giles, D. D.

Hodges, L. B.

CERTIFICATES IN TWO-YEAR COURSES**Agriculture (12)**

Blaschke, R. G.
Hooten, E. A.
Keen, L. S.
Linke, R.

McGaffey, J. W.
Ross, E. G.
Sandel, J. M.
Schroeder, H.

Smith, H. N.
Stocks, A. B.
Syler, C. R.
Wurzbach, A. J.

Textile Engineering (2)

Burow, H. A.

Casaday, K. B.

Engineering (3)

Blackford, J. M.

Cook, C. C.

Stevens, J. E.

DEGREES CONFERRED IN THE 1922 SUMMER SESSION

(September 1, 1922)

Master of Science**In Agricultural Education (4)**

Thomas Albert Fritts,
B. S., A. and M. College of Texas, 1921.

John Alvin Hendricks,
B. S., A. and M. College of Texas, 1921.

Leander Howell,
B. S., A. and M. College of Texas, 1922.

William Lycurgus Hughes,
A. B., Howard Payne College, 1920;
B. S., A. and M. College of Texas, 1921.

In Agriculture (1)

John Carr Patterson,
B. S., A. and M. College of Texas, 1912

Bachelor of Science

In Agricultural Education (9)

Boyce, J. T.
Gay, S. J.
Glazener, V. R.

Le May, S. R.
McGee, R. V.
Monk, J. W.

Moore, J. I.
Oliver, E.
Wilkins, C. A.

In Agriculture (2)

Miller, J. C.

Robinson, B. B.

In Civil Engineering (1)

Van Tuyl, A. J.

DEGREES AND CERTIFICATES CONFERRED FEBRUARY 2, 1923

Bachelor of Science

In Agricultural Education (2)

Alexander, E. R.

Oliphint, J. B.

In Agriculture (1)

Leiper, S. E.

In Architecture (1)

McMillan, W. G.

In Chemical Engineering (1)

Mitchell, W. C.

In Civil Engineering (1)

Scales, R. H.

In Textile Engineering (1)

Henry, M. B.

Certificates in Two-Year Courses

In Agriculture (2)

Deden, E. M.

Lamb, D. E.

SUMMARY OF DEGREES CONFERRED

(June 6, 1922, to February 2, 1923)

| | | |
|------------------------------------|-------------------------------------|-----|
| Advanced Degrees: | | 7 |
| Master of Science..... | | |
| Baccalaureate Degrees: | | |
| Bachelor of Science: | In Agricultural Administration..... | 3 |
| | In Agricultural Education..... | 12 |
| | In Agriculture..... | 69 |
| | In Architecture..... | 7 |
| | In Chemical Engineering..... | 38 |
| | In Civil Engineering..... | 31 |
| | In Electrical Engineering..... | 37 |
| | In Mechanical Engineering..... | 25 |
| | In Textile Engineering..... | 8 |
| Doctor of Veterinary Medicine..... | | 3 |
| Total..... | | 240 |

DISTINGUISHED STUDENTS

At the end of each session students who have during the year made no term grade below B shall be announced as "Distinguished."

(Session 1921-22)

Freshman Class

| | | |
|--------------|-------------|---------------|
| Ablowich, D. | Bell, D. G. | Horn, W. C. |
| Adair, G. P. | Blevins, E. | Schwab, C. T. |
| Bailey, L. | | |

Sophomore Class

| | | |
|----------------|-----------------|------------------|
| Bate, I. | Medberry, C. A. | Smith, Z. |
| Longley, J. F. | | Stubbeman, A. W. |

Junior Class

| | | |
|--------------------|---------------|-----------------|
| Hollowell, G. A. | Ross, H. | Wilcox, G. B. |
| Olsen, C. E. | Weaver, L. L. | Williams, R. B. |
| Pustejovsky, R. G. | | |

Senior Class

| | | |
|-------------------|-------------------|----------------|
| Alexander, W. R. | Harrington, M. T. | Mayo, J. W. |
| Bimmerman, H. G. | Howell, L. D. | Naschke, B. B. |
| Dillingham, H. C. | | |

Two-Year Courses—Second Year

| | |
|-------------|--------------|
| Ross, E. G. | Syler, C. R. |
|-------------|--------------|

MILITARY ORGANIZATION, SESSION 1922-23

The Corps of Cadets is organized into a regiment of Infantry of three battalions of three companies each, a band, one battalion of Signal Corps of two companies, one squadron of Cavalry of two troops, one battalion of Field Artillery of three batteries, and one squadron of Air Service of two flights.

Professor of Military Science and Tactics

Colonel C. C. Todd, Infantry, U. S. A.

Assistant Professors of Military Science and Tactics

Major W. H. H. Morris, Jr., Infantry, U. S. A.
 Major C. W. Russell, Air Service, U. S. A.
 Captain J. F. Davis, Cavalry, U. S. A.
 Captain J. D. Coughlan, Field Artillery, U. S. A.
 Captain F. J. deRohan, Infantry, U. S. A.
 Captain H. J. FitzGerald, Cavalry, U. S. A.
 Captain J. O. Tarbox, Infantry, U. S. A.
 Captain L. A. Kurtz, Signal Corps (F. A.), U. S. A.
 First Lieutenant H. F. Searight, Field Artillery, U. S. A.
 Second Lieutenant H. S. Ruth, Infantry, U. S. A.

Military Department Staff

Technical Sergeant John V. King, U. S. A.
 Technical Sergeant J. C. Hyland, U. S. A., retired
 Staff Sergeant M. S. Huls, U. S. A.
 Sergeant B. Daniel, U. S. A.
 Private First Class C. F. Bradshaw, U. S. A.

FIELD ARTILLERY DETACHMENT**United States Army**

Sergeants:

T. L. Berdine

CAVALRY DETACHMENT**United States Army**

Sergeants:

Robert Duke
 Ernst Seeger

CORPS OF CADETS

Colonel John C. Mayfield (Infantry), Corps Commander
 Major N. W. Jones (Infantry), Corps Adjutant

THE BAND

Captain O. P. Wayland (Air Service), Commanding
 Second Lieutenant C. R. Compton (Cavalry)
 Second Lieutenant T. L. Parish (Field Artillery)

REGIMENT OF INFANTRY

Lieutenant Colonel B. F. Brown, Regimental Commander
 Captain F. K. Buckner, Regimental Adjutant

First Battalion

Major H. G. Shaw, Battalion Commander
 First Lieutenant F. M. Shields, Battalion Adjutant

Company A

Captain:
 W. C. Weir, Commanding
 First Lieutenants:
 C. W. Noster
 L. B. Shifflet
 G. A. Lindsey
 Second Lieutenants:
 R. H. Brison
 B. C. Thompson
 O. F. Reynaud

Company B

Captain:
 C. E. Olsen, Commanding
 First Lieutenants:
 T. C. Davis
 H. Dunn
 H. E. Wilson
 Second Lieutenants:
 J. W. Bartlett
 R. C. Heartfield

Company C

Captain:
 W. H. McClelland,
 Commanding
 First Lieutenants:
 J. H. McDonald
 R. M. Milhollin
 F. Schulze
 Second Lieutenants:
 S. L. Spence

Second Battalion

Major L. L. Faure, Battalion Commander
 First Lieutenant C. Weber, Battalion Adjutant

Company D

Captain:
 J. L. Saunders,
 Commanding
 First Lieutenants:
 F. M. Simpson
 R. A. Axe
 Second Lieutenants:
 G. F. Schmidt
 J. A. Gorman

Company E

Captain:
 W. W. Bridges,
 Commanding
 First Lieutenants:
 E. D. Parnell
 Second Lieutenants:
 W. H. Hughes

Company F

Captain:
 M. I. Broxton,
 Commanding
 First Lieutenants:
 H. C. Adams
 A. C. Mogford
 D. C. Greer
 Second Lieutenants:
 B. S. Love

Third Battalion

Major E. G. LeStourgeon, Battalion Commander
First Lieutenant G. Armistead, Jr., Battalion Adjutant

Company G

Captain:
J. A. Patton, Commanding
First Lieutenants:
E. W. Taylor
Second Lieutenants:
C. E. Bairfield
B. F. Gray

Company H

Captain:
J. D. Prewitt,
Commanding
First Lieutenants:
E. R. Duke
C. M. Close
A. L. Egan
Second Lieutenants:
W. K. Smith
C. C. Rogers

Company I

Captain:
M. H. Adams,
Commanding
First Lieutenants:
G. Burmeister
Second Lieutenants:
C. C. Crosnoe
E. W. Knox

SQUADRON OF CAVALRY

Major W. D. Hail, Squadron Commander
First Lieutenant R. A. Best, Squadron Adjutant

Troop A

Captain:
L. H. Wood, Troop Commander
First Lieutenant:
J. T. Long
Second Lieutenant:
H. E. Womack

Troop B

Captain:
Mack McConnell, Troop Commander
First Lieutenant:
E. D. Brandt
Second Lieutenant:
F. S. Palmer

BATTALION OF FIELD ARTILLERY

Major E. H. Moore, Battalion Commander
Captain L. G. Joliff, Battalion Adjutant
Second Lieutenant D. W. Carleton, Supply Officer
Second Lieutenant E. H. Pendleton, Plans and Training Officer

Battery A

Captain:
R. Phillips, Commanding
First Lieutenants:
O. S. Mingus
J. H. Meredith, Jr.
Second Lieutenants:
J. H. Bare
T. U. McAllister

Battery B

Captain:
W. D. Tiner, Commanding
First Lieutenants:
A. L. Moore
R. E. Harris
Second Lieutenants:
E. H. Nimitz
L. Stallings
W. P. Parker
J. F. Kerr
C. B. McNelly
W. B. Hope

Battery C

Captain:
R. F. Orth, Commanding
First Lieutenants:
O. J. Fay
J. C. Bose
Second Lieutenants:
H. M. McElroy
D. H. Merchant
W. C. Torbett
W. A. Mosteller
W. A. Stiles

SIGNAL CORPS BATTALION

Major G. A. Hollowell, Battalion Commander
Captain T. L. Jones, Battalion Adjutant
Captain R. L. Beale, Tech. Inst. in Telephony
Captain C. G. Amberg, Tech. Inst. in Telephony
Captain H. H. Contreras, Tech. Inst. in Telephony
Captain W. S. Meirs, Tech. Inst. in Telephony
Captain F. C. Simmons, Tech. Inst. in Radio Goniometry
Captain W. F. Adams, Tech. Inst. in Telephony

Company A

Captain:
M. W. Kimbrough, Commanding
First Lieutenants:
C. J. Blum
B. E. Tobin
Second Lieutenants:
W. B. Bullock
F. O. Griffith, Jr.
H. C. Hammett

Company B

Captain:
T. E. Keeton, Commanding
First Lieutenants:
H. A. Carroll
Second Lieutenants:
R. F. Reid
W. D. Morrow
D. P. Richardson, Jr.

AIR SERVICE SQUADRON

Major R. B. Williams, Commanding
First Lieutenant T. H. Baker, Squadron Adjutant

Captains:
A. L. Parke
O. A. Proehl

First Lieutenants:
W. H. Ingram
D. Hudson
L. L. Weaver
E. C. Cushing

Second Lieutenants:
G. A. Dahlberg
P. W. Burns
W. C. Hale
J. T. Reese

HOWELL TROPHY

The Howell Trophy is a Texas Flag presented to the College in 1903 by Mr. W. S. Howell of Bryan, Texas. A competitive drill is held each year during Commencement, to determine the best drilled company of infantry. This company is designated the TROPHY COMPANY and carries the flag during the following session. It is authorized to elect a Trophy Sergeant who is the Color Bearer.

BRANDON AND LAWRENCE TROPHY

The Brandon and Lawrence Trophy is the yellow silk embroidered Cavalry standard presented in 1921 by Mr. George Brandon and Mr. Tom Lawrence of Bryan, Texas. A competitive drill is held each year, during Commencement, to determine the best drilled troop of Cavalry. This troop is designated the TROPHY TROOP and carries the flag during the following session. It is authorized to elect a Trophy Sergeant who is the Color Bearer.

WALDROP TROPHY

The Waldrop Trophy is the scarlet silk embroidered Field Artillery standard presented in 1921 by Mr. A. M. Waldrop of Bryan, Texas. A competitive drill is held each year, during Commencement, to determine the best drilled battery of Field Artillery. This battery is designated the TROPHY BATTERY and carries the flag during the following session. It is authorized to elect a Trophy Sergeant who is the Color Bearer.

WALTERS TROPHY

The Walters Trophy is a silver loving cup, presented to the College in 1921 by General Walters, Texas National Guard. This cup is presented to the Cavalry troop having the highest scholarship standing.

ORGANIZATION OF THE ASSOCIATION OF FORMER STUDENTS OF THE AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

| | |
|--|-----------------------|
| E. P. Hunter, '00, Waco..... | President |
| Marion S. Church, '05, Dallas..... | First Vice-President |
| Carl C. Krueger, '12, San Antonio..... | Second Vice-President |
| J. A. Block, '12, Fort Worth..... | Third Vice-President |
| W. B. Cook, '20, College Station..... | Secretary-Treasurer |

Executive Committee

| | |
|-----------------------------|-----------------|
| E. P. Hunter, Chairman..... | Waco |
| W. B. Cook, Secretary..... | College Station |
| Marion S. Church..... | Dallas |
| Carl C. Krueger..... | San Antonio |
| J. A. Block..... | Fort Worth |
| Dr. J. Allen Kyle..... | Houston |
| A. C. Love..... | Beaumont |
| C. A. DeWare..... | Brenham |

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